Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

L. IX, No. 3
NSECUTIVE No. 5

Practical Pharmacy Edition

mmittee on Publications

ORGE D. BEAL, Chairman
B. V. CHRISTENSEN
ROY B. COOK
HUGO H. SCHAEFER

ROBERT P. FISCHELIS
Secretary and
General Manager

•

Editor

GLENN SONNEDECKER

•

Technical Consultants

MAISON G. DE NAVARRE
RICHARD A. DENO
HARRY W. HIND
HARLES F. LANWERMEYER
AUSTIN SMITH
DONALD A. WALLACE
LOUIS C. ZOPF

•

Advertising Representative

JOHN D. WINTER
777 Bergen Avenue
Jersey City, N. J.
DElaware 2-0500

MARCH 1948

TABLE OF CONTENTS

A. Ph. A. Officials and Administrative Staff 132
Letters 134
New Prescription Products 138
Editorial 144
The Golden Gate in '48 145
Straight from Headquarters 146
Present Status of Cancer Control 148
President Truman's National Pharmacy Week Message 153
Accuracy and Tolerances: V. Ointment Jars 154
The Sullivan Decision and the Practicing Pharmacist 157
Drug and Medical Advertising in Woodville, Miss., 1823–1843 160
National Assembly Will Chart Health Needs 166
Science News Capsules 167
Information Service 169
Idiosyncrasy to Drugs 171
Drug Digest 173
Commissions in Public Health Service 175
New and Nonofficial Remedies 177
A. Ph. A. Branches 182
Typical Days 184
New A. Ph. A. Members 188
Accepted Dental Remedies 190
Briefly Noted 191
Monthly Drug and Advertising Indexes 192

Copyright, 1948, American Pharmaceutical Association

Editorial

Mutual Duty To the Public

ONE of the fine things about the American Medical Association is that it never hesitates to speak out editorially in its *Journal* against unethical practices by members of the medical profession. This gives the Association the right to speak out against charlatanry and dubious practices in other fields. Recently the charge was made that some physicians have forgotten ethical principles to the extent that general practitioners select surgeons on the basis of the extent of the division of fees, rather than the skill of the surgeon.

It also has been stated that certain ophthalmologists send patients to opticians on the basis of the return of a commission from the optician, and that other specialists sometimes stoop to accept commissions from manufacturers of braces, splints and other medical devices. The *Journal of the American Medical Association* adds, "From time to time criticism has been leveled against pharmacists who have offered commissions to physicians on the prescriptions sent to them and to the physicians who have accepted such commissions."

In the editorial quoted, the Board of Trustees of the American Medical Association calls on leaders in the medical profession, in every community in which the Association is represented, to act promptly against the offenders. They recall, however, the need for proceeding in proper form by filing charges against physicians. This offers opportunity for a suitable hearing, so that the innocent may not be harmed.

The code of ethics of the AMERICAN PHARMACEUTICAL ASSOCIATION states: "It is considered inimical to public welfare for the pharmacist to have any clandestine arrangement with any physician in which fees are divided or in which secret prescriptions are concerned."

If, as indicated in the *Journal of the A. M. A.*, there are any instances where pharmacists offer rebates to physicians on prescriptions and if there are physicians who accept such rebates, it is clear that the codes of ethics of both pharmacy and medicine are being violated. It is also clear that both parties should be exposed and that the patient should be protected against this collusion, undoubtedly carried on at his expense.

The morals of both the physician and the pharmacist who enter into a deal of this kind have deteriorated. The quicker such a situation is brought to light the better for all.

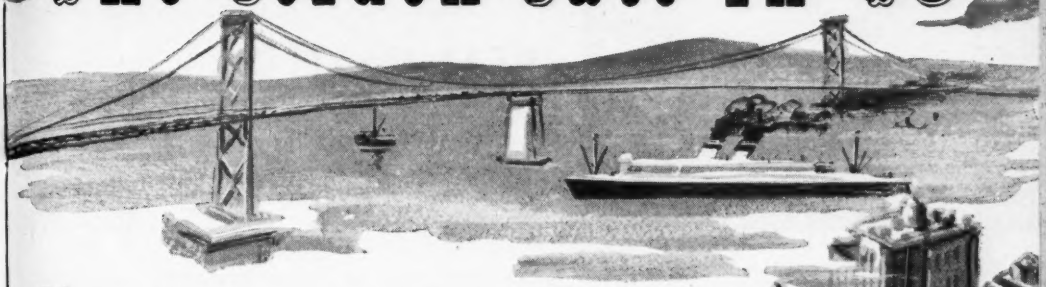
We call upon pharmacists to expose any such arrangements between members of their profession and physicians, wherever they are known to exist. In this way action may be taken by both professions in ridding themselves of the stigma that results from such an alliance.

A Destructive Practice

ANOTHER exploitation of pharmaceutical practice that crops up occasionally is the lay advertising of "specials" and discounts in prescription fees. Such promotion methods are not merely undignified. They also are not conducive to maintaining high professional standards and the highest quality of service. This was recognized by the last joint conference of A. PH. A.-N. A. R. D. executive groups, which "vigorously condemned" such practices "as destructive of the basic health function which pharmacy renders."

Every pharmacist has a right to charge whatever fees he believes will permit optimum standards of prescription service and at the same time offer this phase of medical care at reasonable cost to the public. But if any pharmacist tries to put such health service to the public on a basis of cut-rate commercial trade, it is no longer his concern alone. It is the concern of organized pharmacy, and particularly a responsibility of the local association, to seek corrective action in the case of a pharmacist thus advertising.

The Golden Gate in '48



JUST one hundred years ago John Marshall stumbled onto proof that California was indeed the Land of Gold that men, for three centuries, had believed it to be. The Gold Rush began.

This year of 1948, in August, California celebrates the centennial of the discovery of gold. In the same month of August, when the Golden Gate festival spirit is in full swing, members of the AMERICAN PHARMACEUTICAL ASSOCIATION will convene in San Francisco.

For pharmacists there will be a gold mine of information both in the field of practical pharmacy and scientific pharmacy. Later announcement of the convention program will uncover the rich vein of pharmaceutical ore that awaits you in San Francisco. This, plus California entertainment in Centennial Year, makes it the time to . . .

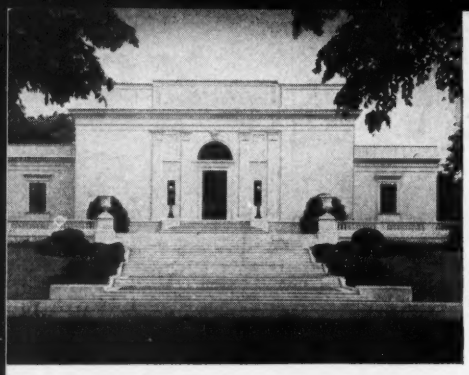
Combine Your Convention with a Vacation in California

Local Convention Committee chairmen are:

General Chairman: Troy C. Daniels, dean of the University of California College of Pharmacy
Local Secretary: Linnet M. Walsh, secretary of the California Board
Honorary Chairman: A. J. Affleck, practicing pharmacist of Sacramento and first vice-president of the A. PH. A.
First Vice-chairman: Louis J. Fischl, of the Medical Center Pharmacy, Oakland
Second Vice-chairman: H. W. Hind, of Barnes-Hind Laboratories
Finance Committee Chairman: E. A. Cutter, Cutter Laboratories
Arrangements Committee Chairman: Walter Gnerich, secretary of the Northern California Retail Druggists Association
Entertainment Committee Chairman: J. R. Allendorf, Eastman Kodak Co.; Mrs. J. P. Creighton assisting in arrangements
Membership Committee Chairman: D. R. Zimmerman, E. R. Squibb and Sons
Local Chairman of Public Relations: Robert L. Pickering

IN SAN FRANCISCO August 8-14

your
American Pharmaceutical Association
convention



STRAIGHT FROM HEADQUARTERS

by *ROBERT P. FISCHELIS,* Secretary
AMERICAN PHARMACEUTICAL ASSOCIATION

"By or on prescription"

IF ANY pharmacist has been in doubt about the meaning of the phrase "To be used only by or on the prescription of a physician," when it appears on the label of a drug he is called upon to dispense, such doubts should be set at rest by the recent decision of the United States Supreme Court in the so-called "Sullivan Case."

A drug so labeled must be dispensed only upon presentation of a prescription and not "over the counter" without a prescription. Even though a footnote in the Court's decision indicates that the phrase quoted above, on the label, "would appear to be adequate directions," the directions in themselves indicate that the user must have a physician's prescription in order to use the drug. The only way in which the pharmacist can satisfy himself of this fact is to see the prescription and to file it, or a copy of it.

The clear meaning of the decision in the Sullivan case is that pharmacists, wherever located within the United States, are subject to criminal prosecution, fine and imprisonment by the Federal authorities if they dispense adulterated or misbranded drugs.

If a pharmacist can label a drug "adequately" within the meaning of the Federal Food, Drug and Cosmetic Act, he can sell it "over the counter." If he cannot so label it, then it may be sold only on a prescription. Adequate labeling is described in the law and regulations. In doubtful cases the authorities should be consulted.

With thousands of proprietary products on the market, the pharmacist must, of course, rely on the producer for adequate labeling and he can ask for guarantees from the producer that his labeling meets the requirements of the law. In the case of non-proprietary drugs, the pharmacist must rely on his own professional knowledge and judgment, other professional and legal authorities which he can consult, and the advice of the Food and Drug Administration.

Certainly, there remains no doubt but that dangerous drugs and others that cannot be used efficaciously without medical advice (all of which bear the prescription legend) must be sold only on prescription.

It is good to have this issue settled as far as the application of the Federal Food, Drug and Cosmetic Act to those practicing within the borders of the various states is concerned. This does not lessen the need or desirability for state acts paralleling the Federal Act. It merely emphasizes this need, for it is manifestly impossible for the Federal government to employ a sufficient number of inspectors to police 50,000 pharmacies.

In this, as in other matters, we believe that pharmacists as a class can be relied upon to police themselves to a very large extent. The fact is that unlawful sales of drugs are comparatively rare. Having substituted certainty for uncertainty in the interpretation of this Act, the Supreme Court has rendered a salutary service and we believe that pharmacists in general will approve and applaud the decision.

Surgeon General Parran

IT IS a matter of considerable regret to learn that President Truman has decided not to re-appoint Surgeon General Thomas Parran for another term. At the same time, it is pleasing to note that Dr. Parran will remain in the U. S. Public Health Service as the representative of the United States on the Interim Commission of the

World Health Organization, which was created by the International Health Conference.

As the presiding officer of the International Health Conference, Dr. Parran won universal acclaim for his eminent fairness and for his wide knowledge of public health problems both national and international. Had our Congress ratified the constitution of the World Health Organization at its last session, this organization would now be functioning and undoubtedly with Dr. Parran at its head.

The universally recognized high standard of efficiency of the U. S. Public Health Service and its forward-looking program and accomplishments are a monument to Dr. Parran's great capacity as an administrator and his unsurpassed leadership in arousing the people of America and of the world to the possibilities of relieving human misery.

Dr. Parran's fearless tackling of the venereal disease problem, his intelligent program for stimulating local interest in more adequate hospitalization facilities, his forward-looking program for combining Federal aid with state appropriations for the promotion of public health, and his development of public interest in the problem of supplying an adequate number of nurses are among his major accomplishments.

Pharmacists have reason to appreciate Dr. Parran's recognition of their profession during his term of office. We can well recall an early contact made with him to discuss more adequate use of men with pharmaceutical training in the U. S. Public Health Service. In his characteristic straightforward manner he asked: "What is the program of American pharmacy for the betterment of public health?" This direct question was the beginning of an intensive effort not only to set forth a program but to prove that there is a definite place for pharmacists in every endeavor dealing with health.

The AMERICAN PHARMACEUTICAL ASSOCIATION was stimulated to survey the activities of the U. S. Public Health Service and to set forth the logical places where pharmacists could function and reduce the necessity for having non-medical services carried out by physicians in the government service. From the survey came suggestions which received Dr. Parran's sympathetic consideration and today the U. S. Public Health Service has in its Hospital Division a full-time pharmacy officer who is expected to develop better pharmaceutical service in the U. S. Marine Hospitals and other installations.

Furthermore, Dr. Parran saw to it that a pharmacist-adviser was named to the American delegation to the International Health Conference.

More recently, the health education division of the U. S. Public Health Service has set up in cooperation with the AMERICAN PHARMACEUTICAL ASSOCIATION an educational program that will make participating retail pharmacies education centers for the improvement of community health. We salute Dr. Parran as a great Surgeon General, as a great humanitarian and as America's outstanding figure in public health administration.

Unfairness to veterans

IT SEEMS that some GI's have been enticed into taking pharmacy courses at so-called colleges that are unable to meet the standards for accreditation of the American Council on Pharmaceutical Education. In view of the fact that registration as a pharmacist in practically every state is restricted to graduates of fully accredited institutions, it is well known that a GI who attends a non-accredited college will find himself sharply handicapped if he should seek to practice his profession in any of these states.

Unfortunately, there are some GI pharmacy students who have not been advised that if they take their courses in a school or college of pharmacy not accredited they will have no standing when it comes to reciprocal registration.

If you know of any GI pharmacy student who is attending a quiz course or a course in pharmacy in any kind of an institution that is not on the accredited list of the American Council on Pharmaceutical Education, you will be rendering such student a signal service by asking him to investigate thoroughly what his standing will be with respect to registration as a pharmacist.

The AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Boards of Pharmacy and the American Council on Pharmaceutical Education are all prepared to supply information to you or to the GI student on this subject. Under no circumstances should we allow veterans to be imposed upon through deceptive literature holding out a promise of future recognition in a profession that he cannot enter except through the portals of accredited colleges.

Present Status of

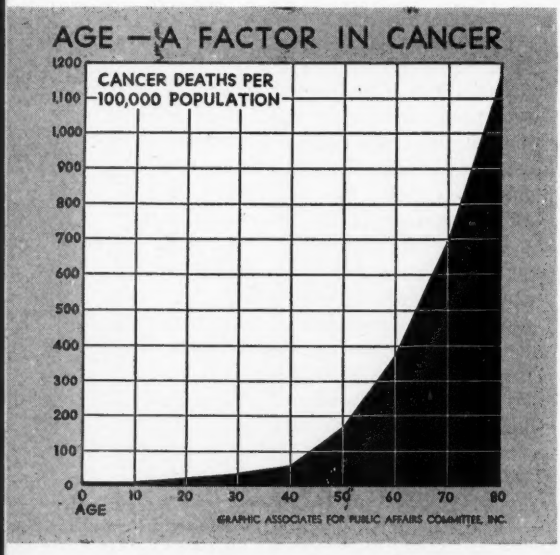
CANCER CONTROL

"the pharmacist has an important role . . ."

by FRED M. LEARNED
American Cancer Society

THE modern pharmacist has an important role to play in the struggle to control cancer. American pharmacists must stand shoulder to shoulder with the physician and the scientist in the national crusade that is now being conducted to conquer this dread disease.

In the practice of his profession the pharmacist is in a unique position to aid this cause through normal, ethical practice. It is not infrequent for a patron to seek from a pharmacist advice that normally should be given by the physician. Sometimes this might not have important implications, but a tactful pharmacist almost always can serve both ethics and good business practices by doing the correct thing. When a patron complains of some apparently minor ailment that might be a sympton of cancer, the responsibility of correct advice is monumental.



It behooves all of us to know what is referred to as the "danger signs" of cancer. The American Cancer Society is waging an educational campaign to inform the public about these symptoms. The pharmacist can be expected to be better informed than the layman. He should be well enough instructed to persuade an inquiring patron to visit his physician immediately if any of the outward symptoms of cancer are apparent.

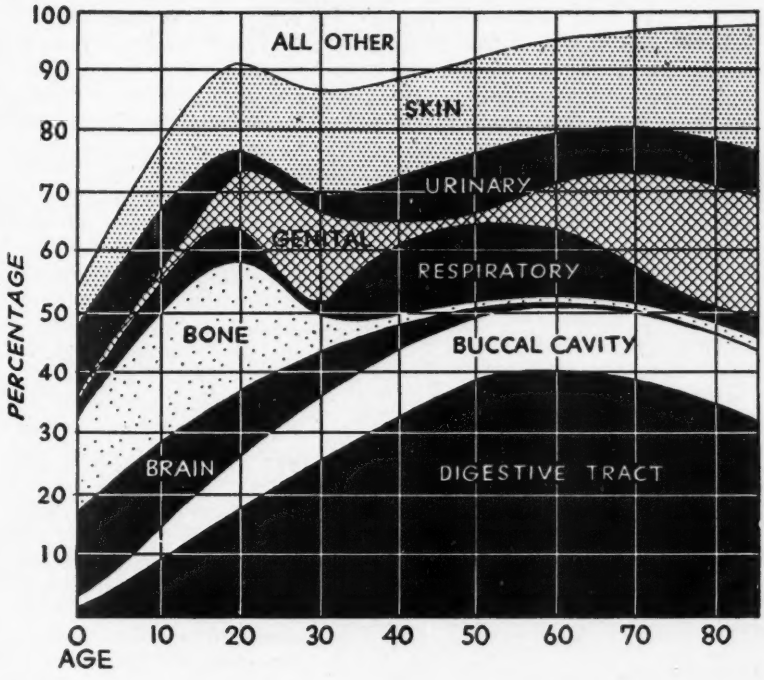
Ethical pharmaceutical practice demands that the physician be consulted on any question that calls for diagnosis and therapy. It is safe to say that there is not a single pharmacist in America who would knowingly risk the life of a person by permitting him to purchase an unprescribed medication for what might be cancer.

There are only two accepted treatments: surgery and irradiation with X-ray, radium or, in some instances, radioactive isotopes. A great deal of research is being conducted in chemotherapy, and clinical results in some instances have been promising. But nothing yet has developed that is as effective as the standard treatments. All pharmacists undoubtedly are well aware that there is no drug now available which has any curative value in cancer.

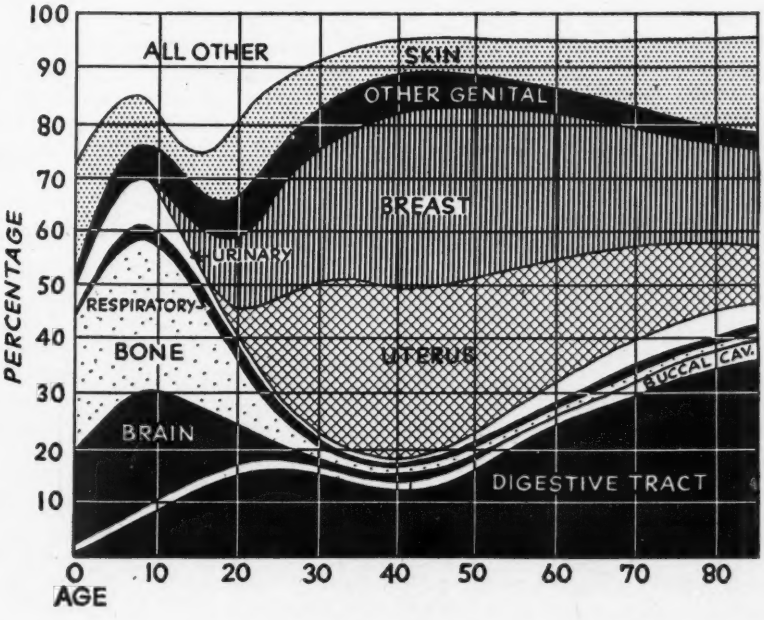
Aside from this important contribution in safeguarding the public from nostrums and quack "cures," the pharmacist can be of invaluable help in the campaign against cancer through educating the public.

WHERE CANCER STRIKES — AND WHEN

MALE



FEMALE



GRAPHIC ASSOCIATES FOR PUBLIC AFFAIRS COMMITTEE, INC.

Attractive and readable pamphlets for the public are being constantly produced by the American Cancer Society and by the National Cancer Institute of the U. S. Public Health Service. They are available to the public without charge.

Educational displays rightly belong in the pharmacy. Such displays and the distribution of cancer control pamphlets during National Pharmacy Week April 18–24, and at other times, will be a public service of importance.

Make the Facts Known

Some of the elemental facts about cancer, which the pharmacist already knows, should be made known to the public. For example, most people don't know that cancer strikes most frequently after the age of forty-five. On the other hand, some people believe that this is strictly a disease of the aged. They must be told that cancer does kill in all age brackets and that anyone is likely to get cancer; *but*, and this is probably most important, people over forty-five should be more alert to the "danger signs."

It is true that the cancer death rate is climbing steadily year after year. Because of much higher health standards, vaccines and immunization, the new miracle drugs, the sulfas and the antibiotics, and advanced medical technique, many thousands of Americans now live to an older age. And the population group which is most ripe for cancer's toll has been tremendously increased.

The aging population poses a real problem for those combating cancer. At the turn of the century cancer was seventh on the list as a cause of death. Tuberculosis was first, and heart disease was third. Today tuberculosis has dropped to fourth place, heart disease is first and cancer has climbed to second place as a cause of death. One explanation, of course, is the change in average life expectancy. In 1900 the average person could expect to live only to the age of forty-nine. Today he can expect to round out sixty-six years.

Most people, too, are misinformed or entirely ignorant as to the varying effects cancer has on the sexes. Unfortunately, many believe that cancer is a "woman's disease." The truth is it strikes more women than men but the difference is too slight to be significant. In 1944, cancer killed 89,005 females and 82,166 males. There is an important distinction, however, between men and women afflicted by cancer when age figures are studied. For example cancer takes the lives of more women between the ages of thirty and fifty-four than any other disease. After sixty however, more men than women die of various types of cancer.

The frequency with which cancer strikes the various sites also is important to know. Among women, the breast and uterus are most frequently affected by cancer. Among men, cancer of the digestive organs (particularly the stomach and intestines) is most prevalent. The latter accounts for about 46% of all cancer deaths in both sexes.

The basic facts about cancer from a biological and physiological standpoint must be understood if the pharmacist is to discuss cancer intelligently. A great deal remains to be discovered about this desease, but primarily it is known that cancer is wild, uncontrolled growth. This purposeless growth occurs in all forms of life, both plant and animal.

At birth the human infant is composed of about 200 billion cells, all developing from the fertilized egg cell. Extensive cell growth continues until maturity is reached when, through some unknown mechanism, body growth is checked. Only when this mysterious inciter is called upon to repair tissue in a particular organ or tissue is cell growth renewed on a large scale. There is a slow general replacement of cells throughout the body during the entire lifetime of a human being.

When Two Things Happen

Cancer results when two things happen: (1) the starting mechanism of cellular growth is activated—sometimes through known causes such as irritation by carcinogens and at other times because of no recognizable or known reason; (2) wild cellular growth takes place, spreads to other locations (metastasizes), and causes death through infringement upon the blood supply to normal tissue and interference with vital organs.

Although the complete mechanism of cellular activity still baffles researchers, a great deal has been learned about the contributing causes of cancer. More than several hundred chemical compounds have

been discovered that can cause cancer under certain circumstances. Many of these substances are by-products of coal tar. When they are brought in continuous contact with the skin and an irritation is set up, cancer usually results.

In the manufacture of certain chemicals, caution is necessary to guard against so-called industrial cancer. Persons working with known carcinogenic materials are warned to bathe often, keep the hands and face free from the substance and change clothing frequently.

There is danger too in continued over-exposure to ultraviolet rays, whether from the sun or a lamp. And the effects of radiation either from radium or X-ray can also cause cancer.

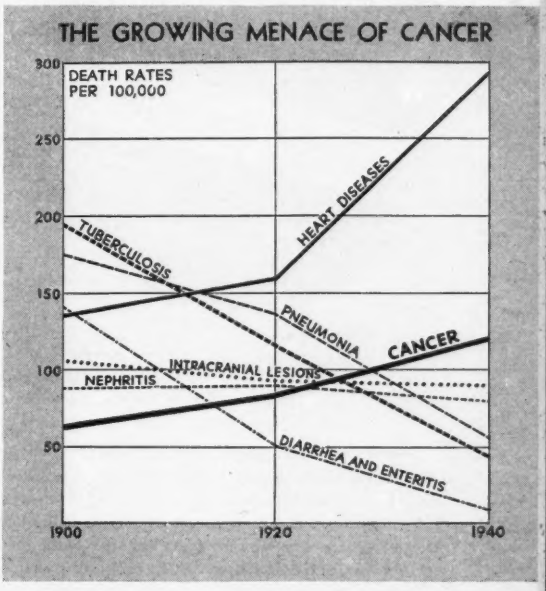
Pharmacists Can Help

The pharmacist is not, nor is he expected to be, an expert in diagnosis, but he can lend his influence and assistance in the nation-wide program to detect cancer in its early stages—when it is most amenable to treatment. The only way a person may better his chances of escaping a cancer death is to have frequent, thorough, physical examinations. Because of the complex character of cancer, expert diagnosis is required, even in moderately advanced cancer. Physicians have found that a well-equipped diagnostic clinic is necessary, and most of the larger hospitals throughout the nation have approved clinics for diagnosis and treatment. Family physicians frequently refer patients to these clinics when suspicious symptoms are found that might be cancer.

Now operating in this country are 185 cancer detection centers. These are distinct and separate from the diagnostic and treatment clinics and perform a separate function. Their only purpose is to uncover cases of incipient cancer or precancerous conditions. Applicants are persons in apparently good health who are interested in learning whether they are free from cancer.

There are not nearly enough detection centers to meet the demand. Most are booked up as much as six months in advance. Many times the number now in existence will be necessary before the effectiveness of the detection program can be measured accurately. At present the percentage of persons found to have cancer at the detection centers ranges all the way from 1.5 to 6%.

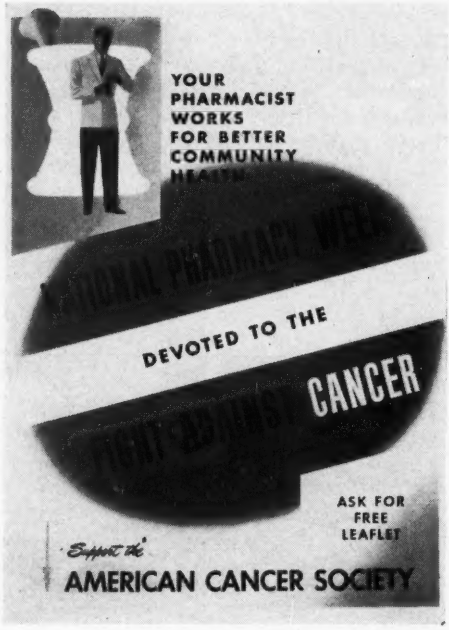
It is pertinent for pharmacists to keep abreast of the general status of treatment techniques. Surgery and radiation are still the only effective mediums for successful



treatment. To reiterate, treatment is most sure when cancer is detected early. Complete eradication of malignant cells must be accomplished to assure a cure. After metastasis has occurred this is impossible except in rare cases.

The primary site of the cancer usually can be removed by surgery. Some inoperable cancers have yielded to deep X-ray therapy. A combination of both treatments is effective in some instances. Recent advances in surgery techniques have made it possible to operate on formerly inaccessible tumors. Cancer of the lung, which previously meant certain death, has yielded to surgery. Cancer of the stomach and of the pancreas, both formerly inoperable, are now frequently operated on successfully.

Multi-million volt X-ray machines have been developed and now can reach deep-lying tumors with favorable results. A technique that permits pin-point accuracy in directing the radiation eliminates much



More than 17,500 pharmacies requested the National Pharmacy Week display and leaflets for use April 18–24. A black and white reproduction of the display design is shown above. The actual display—30 by 40 inches in size—appears in blue, red and black on a white background. Displays will reach participating pharmacists early in April, mounted on card stock with easel, ready for installation. Additional orders for display material cannot be accepted, the National Pharmacy Week Committee reports.

The observance is conducted by the AMERICAN PHARMACEUTICAL ASSOCIATION, *and for the second time carries an educational theme of cancer control in cooperation with the American Cancer Society.*

of the former danger of damaging surrounding tissue.

Some new devices for applying radium are in use. But the successful technique with radon seeds—tiny platinum or gold capsules containing radon gas, which are implanted directly into the cancerous area—is still among the most efficacious.

Research

The exciting search for cancer's causes is of interest to the pharmacist not only from a humanitarian standpoint but because research in general is constantly broadening the effectiveness of the role the pharmacist can play against disease.

Only within the past three years has cancer research forged to the front. Prior to 1945, less than $500,000 was available for cancer research. Now two important sources of research funds exist. The American Cancer Society allocated more than three million dollars for cancer research from funds received in 1945 and 1946. Another three million has been earmarked from funds collected last year. The National Cancer Institute of the U. S. Public Health Service has budgeted $8,500,000 for cancer research during 1947–1948.

Vast new fields of research are being opened as a result of these funds. Extensive studies in practically every branch of medical science are under way. Especial emphasis is being placed on basic research in cellular biology but science is not neglecting a single avenue of research. The investigators are probing deeper than ever before into such subjects as metabolism, mutations, genetics and botany, to mention only a few. In the realm of chemistry, particularly chemotherapy, the quest goes on with ever-increasing tempo. Physicists too are making important contributions, especially through experiments with radioactive isotopes.

It is plain that pharmacy too has a vital place in this nation-wide fight against cancer—and not only through pharmaceutical research. The practicing pharmacist is in a unique position to help, both as a professional man concerned with the problems of public health and health education, and as an influential citizen who can show leadership in organizing civic programs aimed at better community health.

THE WHITE HOUSE
WASHINGTON

March 10, 1948

Dear Mr. Dretzka:

I congratulate the American Pharmaceutical Association on the twenty-second annual observance of National Pharmacy Week. On this occasion may I express my best wishes for your endeavor to extend further the services of pharmacy to the American public.

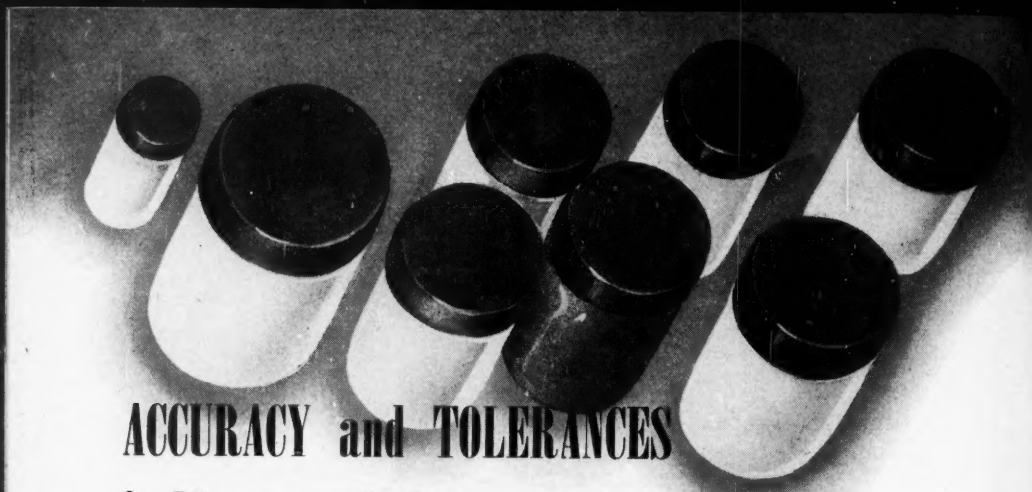
I am not unmindful of the contributions pharmacists are making to better health in our communities. I believe that the people of the United States also recognize the vital professional services of our pharmacists in the neighborhood pharmacy, in the hospital, manufacturing laboratory, and other fields.

It is particularly gratifying to note that pharmacists are endeavoring to use their close contact with the community to help control major diseases through public education in cooperation with private and governmental health agencies.

Very sincerely yours,

Harry Truman

Mr. Sylvester H. Dretzka,
President,
American Pharmaceutical Association,
2215 Constitution Avenue, N. W.,
Washington 7, D. C.



ACCURACY and TOLERANCES in Pharmaceutical Compounding

V. OINTMENT JARS

by SAMUEL W. GOLDSTEIN *

MODERN containers used for packing extemporaneously prepared ointments vary artfully in shape, size, and color. Their shapes and colors are beyond criticism, but some problems become evident when sizes are studied. No criticism of the manufacturers of containers can be voiced because jars of slightly varying capacity close to certain sizes are available. We might suggest that unmarked jars showing too wide deviation from apparent capacity might be kept from the channels of distribution to pharmacists.

How wide are the deviations of jar capacities used by pharmacists? Some studies of this subject have been made before, the work of M. J. Andrews and A. G. DuMez being the most comprehensive.[1] In spite of the fact that most of the experimental work was done by students, Andrews and DuMez accumulated valuable and interesting information. The manner in which the capacities of jars can influence compounding accuracy was mentioned in a preceding paper of this series.[2] To determine the variations in capacity among the different types of ointment jars on the market today, and to evaluate the extent to which such deviations might contribute to compounding inaccuracy, the following studies were made.

Information was requested from five manufacturers of ointment jars with respect to the capacities of their products. The information received is presented in condensed form.

Manufacturer "A" bases jar capacities upon the volume occupied by one avoirdupois ounce of petrolatum, chosen as the average ointment base with respect to density and weight. A fluid capacity of ten fluiddrams is required to hold an avoirdupois ounce of petrolatum and, accordingly, the half-ounce jar holds five fluiddrams at overflow; the one-ounce jar, ten fluiddrams; etc. (The ten-fluiddram jar will actually hold about one apothecary ounce of petrolatum.) This manufacturer finds it necessary to handle jars of widely varying capacities made by others because they are demanded by pharmacists.

Manufacturer "B" makes several lines of jars. The capacities of the jars are based upon the fluiddram. The approximately one-ounce jars of the different lines are stated to hold 8.5 drams and 9.5 drams of water at overflow. (The 8.5-dram jars obviously cannot hold an apothecary ounce of petrolatum, but the 9.5-dram jars, which actually hold about 10 drams of water at overflow, can hold an apothecary ounce of petrolatum.)

Manufacturer "C" bases the capacities of jars on the volume of an apothecary ounce of petrolatum, but states their capacities in terms of fluidounces at overflow.

Manufacturer "D" bases jar capacities on the weight of a fluidounce of water, and

* Pharmaceutical Chemist, Maryland State Department of Health. Member of Committee on Prescription Tolerances of the AMERICAN PHARMACEUTICAL ASSOCIATION.

makes 1/2-, 1-, and 2-ounce jars capable of holding at overflow 5/8, 1 1/4, and 2 1/2 fluidounces. (Although manufacturers "A" and "D" arrive at their conclusions by different calculations, their products should have similar capacities.)

Manufacturer "E" states jar capacities in terms of fluiddrams or fluidounces of water at overflow. He mentions that the jar capacities are kept within the allowable tolerances set up by the Glass Container Manufacturers Institute.

Tested Jar Capacities

Jars that had been used for packing ointments in pharmacies were tested. Each jar of the same size range came from different pharmacies, assuring samples from different lots. The liquid capacity of each thoroughly cleaned jar was determined by filling to overflow with distilled water and transferring the water to a checked graduate. The capacity in terms of petrolatum was obtained by multiplying the determined capacity in cubic centimeters by the mean specific gravity (0.848) of U. S. P. petrolatum, and conversion of the grams to apothecary ounces.

The latter procedure was checked in a number of cases by filling the jars with warmed petrolatum and determining their capacities by weight directly. The values obtained with water were corroborated in each case. Some of the data are given in Table 1, page 156.

It should be noted that although a jar shows wide deviation from apparent capacity based upon the volume of an apothecary ounce of petrolatum, this does not necessarily indicate a deviation from the manufacturer's declared capacity for the jar.

The data in Table 1 show that, although there is no uniformity among the manufacturers in stating jar capacities, each manufacturer makes a jar capable of holding about one apothecary ounce of petrolatum. Widest deviations occur generally in the half-ounce jars. The jars of manufacturer "B" which appear to be, and are used as, one-ounce containers show the widest deviations in this size group. This is accounted for by the several lines of jars made by manufacturer "B" with declared variations in capacities. One of the lines includes jars having a capacity close to one ounce.

While a uniform system of determination and declaration of jar capacities by manufacturers is highly desirable, and is hereby recommended, the manufacturers can in no way be held responsible for the pharmacists' preference for a jar of low or high capacity.

Pharmacists' Choice of Jar

The one-ounce ointment jar used most frequently by pharmacists is declared to hold 8 fluiddrams of water at overflow. One of these jars, taken at random, was found to hold 8.4 fluiddrams of water at overflow. To determine the weight of different ointments and bases this jar would hold, the different preparations were "packed cold" with sharp rapping to exclude air, and then packed again after warming the ointments until they just flowed. For purposes of comparison, the fluid capacity of the jar was determined with a "struck" water level.

The results are given in Table 2 (p. 176). The data show that only with extremely heavy ointment could this so-called one-ounce jar actually hold one apothecary ounce. Another type of jar, with a capacity of 1.01 apothecary ounces of petrolatum, held about 23% more of each ointment.

Why do some pharmacists prefer an ointment jar with a capacity of about eight fluiddrams or about nine-tenths of an apothecary ounce of petrolatum? From an esthetic point of view, such a jar is available in an attractive and well-proportioned form. It is also tall enough to take the pharmacists' regular bottle label. Many pharmacists want to deliver to the patron an apparently full jar of ointment. With the jar of smaller capacity, one ounce of almost any ointment will fill the container. The fact that in most cases a large quantity of the ointments prepared in one-ounce quantities must be discarded is overlooked.

Some pharmacists use the largest size jar exclusively. Some of them have special labels which are used, when necessary, to notify the patron that the nature of the ointment causes an apparent slack fill of the container. This is a commendable practice and should be more widely adopted. A few pharmacists stock jars of slightly varying capacities and choose the one that the prepared ointment will apparently fill.

The increasing popularity of emulsion-type ointments, many of which have a higher specific gravity than the petrolatum-type

TABLE 1—DETERMINED CAPACITIES OF AVAILABLE JARS

Manufacturer	Stated or Apparent Capacity in Ozs.	No. of Jars Tested With Same Detd. Capacity	Detd. Capacity in Apoth. Ozs. of Petrolatum	Deviation in Capacity in %
A	1/2	2	0.545	+ 9.0
A	1	1	0.955	− 4.5
A	1	2	0.968	− 3.2
A	1	3	0.980	− 2.0
A	1	1	1.008	+ 0.8
A	2	1	1.936	− 3.2
A	2	1	1.965	− 1.8
A	2	1	2.020	+ 1.0
B	1/2	1	0.436	−12.8
B	1/2	1	0.450	−10.0
B	1/2	2	0.491	− 1.8
B	1	3	0.846	−15.4
B	1	5	0.859	−14.1
B	1	8	0.900	−10.0
B	1	2	0.941	− 5.9
B	1	9	0.981	− 1.9
B	1	2	0.996	− 0.4
B	1	2	1.022	+ 2.2
B	1	2	1.036	+ 3.6
B	1	2	1.109	+10.9
B	1	3	1.173	+17.3
B	2	4	1.692	−15.4
B	2	4	1.718	−14.1
B	2	1	1.950	− 2.5
C	1/2	1	0.546	+ 9.2
C	1/2	2	0.559	+11.8
C	1/2	1	0.573	+14.6
C	1	1	1.008	+ 0.8
C	1	2	1.022	+ 2.2
C	1	4	1.036	+ 3.6
C	2	1	2.045	+ 2.3
C	2	1	2.086	+ 4.3
D	1/2	2	0.518	+ 3.6
D	1/2	1	0.532	+ 6.4
D	1/2	1	0.545	+ 9.0
D	1	1	1.008	+ 0.8
D	1	2	1.036	+ 3.6
D	1	2	1.064	+ 6.4
D	2	1	1.948	− 2.6
E	1/2	1	0.436	−12.8
E	1	1	0.886	−11.4
E	2	1	1.665	−16.8
F[a]	1/2	1	0.491	− 1.8
F	1	10	0.873	−12.7
G[a]	1/2	1	0.491	− 1.8
G	1	1	0.886	−11.4

[a] Jars listed for mfrs. F and G are metal containers.

ointments, may prove to be a factor in favor of the lower capacity jars. Increasing use of the metric system in prescription writing may create a demand for containers with capacities stated in that system.

Many pharmacists do not indicate a particular jar in their orders to the wholesaler. They order a one-ounce jar, and use the container the wholesaler sends, even when they disapprove of the type of jar supplied. An educational program with respect to jar capacities should therefore be directed at both the manufacturers and the pharmacists, with particular attention to the pharmacists. If pharmacists will demand of the wholesalers an ointment jar capable of holding a full apothecary ounce of petrolatum, the manufacturers will supply the demand.

Jar Capacity Related to Accuracy

The possible relation between the extent of error in the concentration of the medicinal ingredient, the weight of ointment dispensed, and the capacity of the container was investigated. The total weight of the ointment was determined as follows: The jar containing the ointment was weighed. The ointment was removed as completely as possible, using a clean paper towel and then cheesecloth to remove the last traces. The empty jar was then reweighed. One ounce of ointment was requested in each case. The jar capacities were determined as previously described. A segment of the accumulated data is given in Table 3 (p. 176).

When the medicinal ingredient is weighed and a sufficient amount of base to make the requested weight of ointment is taken, the deviation in concentration of the medicinal ingredient is influenced by the calculations, the purity of the substance, the condition of the balance and weights, and the care taken. When the ointment jar is used to determine the amount of base to be taken, the probable error is increased roughly to the extent that the capacity of the jar varies from the volume occupied by the weight of the requested ointment base.

When too small a quantity of base is taken, part of the error is canceled by not deducting the weight of the ingredient to be incorporated, from the weight of the base. With a high-capacity jar this procedure causes an additive inaccuracy. Under such conditions, when a jar having a capacity of 0.85 apothecary ounce is used and a weight of ingredient required to make one ounce of ointment is taken, an additional error of about 15% is introduced. When we consider that an operator who uses such technique may not be too careful about air pockets in the base measured in the jar, the additional error is more likely to be 20–25%. Of the 30 salicylic acid ointments listed in

(*Continued page 176*)

THE SULLIVAN DECISION

. . . AND THE PRACTICING PHARMACIST

By WALLACE F. JANSSEN*

U. S. Supreme Court opinion holds great significance for pharmacy . . .

THE highest ethical standards of pharmacy are upheld by the Supreme Court's decision in the famous Sullivan case, handed down January 19, 1948.

In effect, the Court said that the great power of the Federal government may be used against over-the-counter sale of potent drugs from interstate sources. Obviously this also hits at such related evils as counter prescribing and the indiscriminate sale of habit-forming drugs by some unethical pharmacists. On the positive side, the Court in effect upheld the doctor-pharmacist-patient relationship. Finally, the decision strongly implies the concept of a trained professional man behind the counter, who is ever aware of his responsibilities and knows the content and labeling of every product he sells, whether it be compounded by himself or factory packaged.

Perhaps this may seem a great deal to read out of the Court's two majority opinions. However, careful analysis indicates that the decision is fully this broad and is easily the most important one to date bearing on standards of pharmaceutical practice.

The facts of the case are simple and well known. A druggist sold sulfathiazole tablets without a prescription. He took the tablets from a bulk container which bore the prescription legend, as required by regulations of the Food and Drug Administration under Sec. 502(f)(1) of the Federal Food, Drug and Cosmetic Act. But, in the words of Justice Black, the boxes in which he sold the tablets did not bear the "statutorily required adequate directions for use or warnings of danger."

Would the sale have been legal if the druggist had himself applied directions for use? The answer is NO—because this drug was one of the group of potent drugs for which directions adequate for safe and efficacious use by laymen, untrained in medicine, cannot be written. It was *legally exempted* from bearing any directions for lay use, on the condition that it bear the warning that it is to be sold only on prescription. This warning is for the information of the pharmacist, whose responsibility it is to keep dangerous drugs out of the hands of the unqualified and the uninstructed.

The Supreme Court's decision did not specifically uphold the legally complex label regulations of the FDA. It simply held that dispensing the tablets without a prescription resulted in their being misbranded by the druggist, a crime for which he could be prosecuted under the Federal law.

Sullivan's attorneys had appealed from the guilty verdict of the District Court on the ground that his act was subject only to state and local laws. The 5th Circuit Court

---

* Wallace F. Janssen, contributor of this specially written analysis of the Sullivan decision, has been a business writer and editor since 1929. He came to Washington in 1943 to become wartime editor of *F-D-C Reports*, weekly newsletter for the pharmaceutical and cosmetic industries, and continued as its managing editor after V-J Day. Mr. Janssen has reported the activities of the Food and Drug Administration since 1933 when the Tugwell bill, forerunner of the present Federal Food, Drug and Cosmetic Act, was introduced.—THE EDITOR.

of Appeals upheld this view by ruling that Federal jurisdiction under the food and drug law ended with the first intrastate sale by the importer (the wholesaler). The Supreme Court majority brushed aside this point. Justice Black said Congress intended Section 301(k) of the law to cover any act by a retail pharmacist which results in a product being misbranded while it is held for sale after shipment in interstate commerce.

Justice Frankfurter objected sharply that this interpretation would subject all local sales of foods, drugs and cosmetics to the labeling requirements of the Federal statute—which he declared would make criminal innocent acts such as the transfer of bulk candy to retail packages. Justice Rutledge answered Justice Frankfurter in a concurring majority opinion in which he pointed to the different ways in which the law treats foods and drugs. He argued that Congress intended Federal control over drugs to be more strict than that over foods.

To the Point

Justice Black was even more to the point. He said, "We are told that its [the law's] application to these local sales of sulfathiazole would logically require all retail grocers and beauty parlor operators to reproduce the bulk container labels on each individual item when it is taken from the container to sell to a purchaser. It is even prophesied that, if Sec. 301(k) is given the interpretation urged by the Government, it will later be applied so as to require retail merchants to label sticks of candy and sardines when removed from their containers for sale.

"The scope of the offense which Congress defined is not to be judicially narrowed as applied to drugs by envisioning extreme possible applications of its different misbranding provisions which relate to food, cosmetics and the like. There will be opportunity enough to consider such contingencies should they ever arise." Justice Black continued that the Administrator has broad discretionary powers under the Act to excuse minor violations and to exempt foods from labeling requirements which might otherwise apply.

Justice Black said that the language used by Congress "broadly and unqualifiedly prohibits misbranding articles held for sale after shipment in interstate commerce, without regard to how long after the shipment the misbranding occurred, how many intrastate sales had intervened, or who had received the articles at the end of the interstate shipment."

He again stated that the broad purpose of Congress in the Food, Drug and Cosmetic Act "was to safeguard the consumer by applying the Act to articles from the moment of their introduction into interstate commerce all the way to the moment of their ultimate delivery to the consumer."

It is interesting to note that the Court cited with approval a decision of the 9th Circuit Court of Appeals in a case in which the Food and Drug Administration went so far as to seize a misbranded device ("Spectrochrome") in the home of its owner. In other words, the jurisdiction of the Federal government over drugs and devices extends to the shelves and counters of the local retailer and in some instances beyond the retailer to the ultimate consumer.

How do local and state officials feel about this broad sweep of Federal authority over industries they regulate? Generally speaking, they breathed a sigh of relief when the Sullivan decision came down. Otherwise they would have acquired an additional work-load which the states are ill equipped to carry. The job of keeping the nation's foods, drugs and cosmetics pure and truthfully labeled is so big and important that it requires all the energies and time of every man and woman assigned to the task.

State and Federal Cooperation

Cooperation between state and Federal enforcement agencies is most cordial and effective. One proof of this is the endorsement which the Association of Food and Drug Officials of the United States has given to the pending Miller bill in Congress. This bill makes it clear that the Food and Drug Administration has power to seize misbranded or adulterated foods, drugs, cosmetics and devices while held for sale after interstate shipment. FDA has been exercising this power since 1906, but a recent decision of the 9th Circuit Court of Appeals narrowed the scope of its application. Incidentally, the Supreme Court's decision in the Sullivan case strongly supports the Miller bill by answering any question as to its constitutionality.

What would the Supreme Court have held if Sullivan had sold a prescription drug in the

original manufacturer's package bearing the "prescription legend?" It's safe to conclude the Court would have given the same answer. If anything, it might have been even more definite in its views—for the druggist would have been selling the same package which had traveled in interstate commerce.

As a matter of fact, this very situation was presented by another case which was pending in the 9th Circuit when the Sullivan case was decided. A San Francisco druggist had sold "Sev-A-Jay" (an emmenagogue), "Seconal" and "Amytal" in their original packages without prescriptions. He appealed, but the Circuit Court, merely citing the Sullivan decision, refused to reverse the conviction.

What Effect?

What will be the effect of the Sullivan decision on the practice of pharmacy? Salutary. It will have no effect whatever on the thousands of pharmacists who conduct an ethical practice. But the small minority who discredit their profession by illegal and unethical practices will be in greater danger of Federal prosecution. FDA is already renewing its enforcement activities at the retail level, after an eight-month delay while waiting for the legal question to be decided.

During this period FDA inspectors were not idle, however. They gathered considerable evidence which will be used in court actions against pharmacists who have sold prescription drugs without prescriptions. Prior to the Sullivan case, FDA had prosecuted over 50 pharmacists and won fines and/or suspended jail sentences in all but one case. Many of these cases involved sale of barbiturates.

Now that the Supreme Court has spoken, FDA will also push its efforts to get manufacturers to comply fully with the labeling regulations. It's no secret that the Administration was disappointed because the Court did not specifically uphold the regulations whereby drugs are classified for the purpose of determining what kind of labeling they should bear (*i. e.*, prescription legend or adequate directions). In fact, FDA lawyers and officials were upset by what they regarded as a legal "slip" in Justice Black's opinion. In a footnote the Justice said the prescription legend appeared to be an "adequate direction" on the manufacturer's package, since it is required by FDA regulations. This is just what FDA lawyers say the prescription legend is *not*. On the contrary, they emphasize that the prescription legend is a *condition* which the law imposes for exemption from the general requirement that all drugs must bear adequate directions.

This legal point is extremely important to FDA. As an example of its implications, officials cite their case against "Rx 5,000"—an emmenagogue—one of a group of similar products that FDA is trying to remove from the market. The Federal District Court at Los Angeles ruled that "Important—To be used as directed by the physician," accompanied by dosage, was an adequate direction for "Rx 5,000." FDA officials feel that this defines "adequate" so broadly that virtually any drug, no matter how potent or dangerous, could be labeled with directions which would make possible its use without a prescription.

FDA wants manufacturers to use the prescription legend only in the form in which it appears in the regulations, and *only* on those drugs that have been determined to require professional supervision in their use. Only in this way, FDA officials feel, will the prescription legend be what they hope it is—a notice to the pharmacist on drugs which scientific authorities agree cannot be safely and effectively used except under professional guidance. Most drug manufacturers are today labeling all their products in conformity with this principle. FDA is planning a test case to settle the question with regard to those products which are not so labeled.

DRUG AND MEDICAL ADVERTISING IN WOODVILLE, MISS. 1823-1843

by E. L. Hammond, Kenneth Redman** and J. G. Wickstrom, Jr.†*

BY 1823 the Magnolia State was completing its sixth year in the Union. That spring the people were talking about the *Virginia*'s venture up the Mississippi River, first steamboat to ascend as far as Fort Snelling (Minn.). It was still a frontier era around Woodville, Miss., when there appeared the drug and medical advertising reviewed in this study.

WOODVILLE *lies in the oldest part of Mississippi inhabited by white men—the "Old Natchez District." This region has been under Spanish, French, British and United States flags. But when Mississippi was admitted to statehood in 1817 Indians still controlled most of the land. Between 1820 and 1832 three important treaties with the Indians opened the land to settlers.*[1] *The area reportedly drew a good class of immigrants.*[3] *By 1830 the plantation settlement and frontier town of Woodville, in the southwest corner of Mississippi, is said to have grown to a population of 519.*[2] *This, then, is the setting in which appeared the drug and medical advertising here described.*

Our objectives were to show (1) what ills the remedies were advertised for, (2) how the citizens of the settlement were being treated for these ills, (3) where their drugs were coming from and (4) the status of pharmacy in Mississippi during this early period of statehood.

Word had not yet reached the *Woodville Republican*'s readers concerning the bold Monroe Doctrine, so recently set forth by the President, when the first drug advertising found in this study was published. The full-column advertisement of the firm, Lehman and Beaumont, appeared on December 18, 1823.[9] Under the heading, "Drug, Medicine, Paint, and Dyestuff Store" there were listed in small type such "medicines" as Turkey opium, refined camphor, quicksilver, cloves, ginger, gum arabic, kino and nitre fortis. Under the heading "Patent Medicines" are to be found such items as soda powders, British and Harlem oil, Lee's Pills, dysentery pills, opodeldoc, itch ointment, Swain's Panacea, gout drops, and rheumatic drops. There was also a list of paints (dry and in oil), dyestuffs, and also "Miscellaneous Articles" ranging from spectacles and garden seed to bed pans and furniture. Physicians' prescriptions were

* Dean, School of Pharmacy, University of Mississippi, University, Miss.
** Visiting professor of pharmacy, summer session 1947, University of Mississippi.
† Alumnus, University of Mississippi School of Pharmacy, class of 1944.
Presented at a joint session of the Section on Historical Pharmacy of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Institute of the History of Pharmacy, Milwaukee meeting, 1947.

filled and medicines could be obtained at all hours of the night.

1824: In 1824, the first full year of advertising available, the same Lehman and Beaumont advertisement appeared twice more, on January 1 and 6.[10, 11] This has been reproduced in part below. Next, there was more than two columns of advertising for "Lee's Original Highly Improved Family Medicines"[12] (see illustration, page 163). The first testimonials to appear extolled the "virtues" of fourteen items, such as antibilious pills, worm lozenges, grand restorative and nervous cordial, fever and ague drops, sovereign ointment for the itch, toothache drops, anodyne "alixir," and corn plaster.

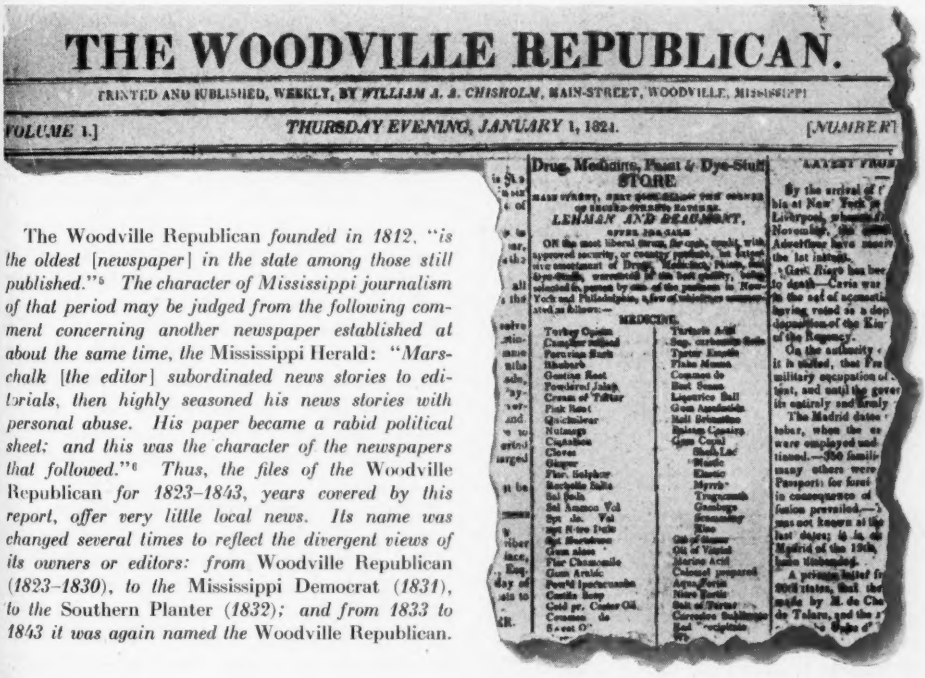
"The Above Famous Family Remedies are for sale, wholesale and retail by C. C. West, Postmaster, Woodville," it was announced. "Country dealers in Medicines" and "persons" wishing to sell the remedies on commission were invited to handle the line. This same advertisement was printed repeatedly throughout the year.

Smith and Pearsall advertised for sale J. Shinn's Panacea.[13] According to the account, J. Shinn had discovered the composition of Swain's Panacea and had thus lowered the price from $3.50 to $2.50. According to testimonials of two physicians, this preparation was efficacious in syphilis, scrofula, venereal and mercurial diseases.

An advertisement of an executor's sale of a "complete and general assortment of medicine" in Pinckneyville,[14] indicated that a drugstore had been there.

An advertisement offering a few copies of the "History of the Yellow Fever as it Appeared in the City of Natchez" in the months of August, September and October, 1823, appeared on the front page of the *Woodville Republican.* It was for sale at the office of this publication; price, 37½ cents.[15]

1825–1830: Very little change occurred during this period. James Ogdon gave notice of a sale of "Medicine & Books" at Fort Adams.[17] Sheldon and Dixon of New Orleans listed "Fresh Drugs, &c, received by recent arrivals from Boston, New York, Philadelphia, Baltimore, and Europe."[18] Reed & Calliham (1828) advertised "Drugs, Medicines, Apothecary's ware, Paints, Oils, & Dyestuffs—and Medicine chests for families and plantations put up agreeable to order."[19]



THE WOODVILLE REPUBLICAN.

PRINTED AND PUBLISHED, WEEKLY, BY WILLIAM J. S. CHISHOLM, MAIN-STREET, WOODVILLE, MISSISSIPPI

VOLUME 1.] THURSDAY EVENING, JANUARY 1, 1824. [NUMBER 1

Drug, Medicine, Paint & Dye-Stuff STORE

LEHMAN AND BEAUMONT,

MEDICINE.

The Woodville Republican *founded in 1812, "is the oldest [newspaper] in the state among those still published."*[5] *The character of Mississippi journalism of that period may be judged from the following comment concerning another newspaper established at about the same time, the* Mississippi Herald: *"Marschalk [the editor] subordinated news stories to editorials, then highly seasoned his news stories with personal abuse. His paper became a rabid political sheet; and this was the character of the newspapers that followed."*[6] *Thus, the files of the* Woodville Republican *for 1823–1843, years covered by this report, offer very little local news. Its name was changed several times to reflect the divergent views of its owners or editors: from* Woodville Republican *(1823–1830), to the* Mississippi Democrat *(1831), to the* Southern Planter *(1832); and from 1833 to 1843 it was again named the* Woodville Republican.

Closing feature of a "Grand Performance" at a carnival (1829) was a demonstration of the "administration of Nitrous Oxyde" or "Exhiliarating Gas."[20]

Wm. H. White (1830) sold dry goods, groceries, hats, boots and shoes, clothing, saddlery, guns, hardware, cutlery, Queensware, medicines, oils, paints, and dyestuffs."[21]

Drugs a Side Line

1831: T. C. Brown and Company's advertisements indicated they had added drugs and dry goods to their former stock, thus getting into pharmacy on the side.[22] Here we note for the first time mention of acetate of morphia, denarcotized opium, iodine, "Strechnine" and sulfate of quinine. Tooth extractors, tooth forceps, thumb lancets and Fahrenheit's thermometers are other items of interest. The shipment was from Philadelphia.

Doctors Holt and White announced, in 1831, that they were in the drug business.[23] Joseph Riddle[24] James M. Bagley and Co.[25] and Drs. Thos. & Jas. Lyne were others coming into the field of pharmacy in 1831.[26] All of these new dealers in drugs indicated, with the exception of Doctors Holt and White, that the selling of drugs was only part of their enterprise; the Doctors Lyne advertised that they were also practicing medicine.

Drug and medical advertising evidently reflected a true picture of the period, for it was in "the 1830's [that] a rapid and unsound business expansion finally ended in the panic of 1837."[27] There were only four stores in Woodville dispensing drugs from 1823 to 1830, while the number more than doubled in 1831, with five stores adding drugs to their lines of merchandise. As to the status of pharmacy, two of the four stores in the early period (1823–1830) might be reasonably classed as drugstores, while two of the five new stores in 1831 might be classed as drugstores.

1832–1843: As might be expected, business in general continued to prosper during the first part of this period. J. Saunders[28] and T. C. Brown & Co.[29] continued in business, both opening "New Drug Stores" along with McWhorter and Sale.[30] Numerous other firms were attracted to drugs as a side line to their general merchandise,[31–35] although few of them advertised drugs often.

Most of the drug dispensing was apparently done during this period by the two firms of T. C. Brown and Co. and Jesse Saunders. It seems quite apparent that these two firms were competitors, and it is interesting to see how (judging from their advertisements) each met this competition. Brown attempted to have a drugstore in the accepted sense of that time. He soon ceased advertising even boots and shoes (1832), and two years later advertised "physicians prescriptions put up with care either night or day,"[36] and Dr. C. H. Stone had "offices at the Drug Store of T. C. Brown & Co."[37] Although Saunders listed over 200 drug items in one advertisement and added a few items and literature of the well-known Thompson medicines,[38] he continued to sell groceries and other lines.

Brown featured trusses[39] and the books, a "Treatise on Yellow Fever,"[40] the U. S. Dispensatory and the U. S. Pharmacopoeia.[41] Saunders next listed an extensive line of Thompson's medicines and literature, along with other drugs, "Fresh and Genuine... to which he calls the attention of the Sick and Afflicted, as he feels willing to give all who may wish for advice gratis and furnish them with the following medicines and many others...."[42] Brown countered by advertising "a general assortment of Thompsonian Medicine...."[43]

Next, Saunders announced the procurement of the Thompsonian agency with the following: "THE SOURCE OF HEALTH. Let none presume and none complain for fortune turns and turns again. Capricious chance reverses all, some stoop to rise, some stoop to fall—THOMPSONIAN AGENCY."[44] This was followed by an extensive list of the drugs, and a notice regarding "Thompsonian subscribers to the 'Watchman' and 'Recorder.'"

It can only be surmised whether it was competition, foresight of the impending financial panic, or perhaps an urge to become a physician that led Brown to sell his drugstore to "Doctors Stone and Martin" in 1835.[45]

Doctors Stone and Martin continued to practice medicine, thus apparently offering a different kind of competition to Saunders than Brown could. They advertised very little during the next two years. In their first advertisement about six months after purchasing the store, books, stationery,

music, etc., were listed, but drugs were not even mentioned.[46] Later they advertised yeast powders,[47] medicine chests,[48] tooth wash,[49] and "Dr. Parson's celebrated Tooth Paste."[50]

In the meantime, Saunders continued as before, with his general merchandise advertising and his Thompsonian notices. He announced "receiving direct from the establishment of Jarvis Pike & Co. at Columbus, Ohio, twenty-three hundred pounds of Botanic Medicines, well assorted" in one shipment.[51] He may have regretted his purchase, for he only advertised twice more that year (1836) before the panic of 1837.

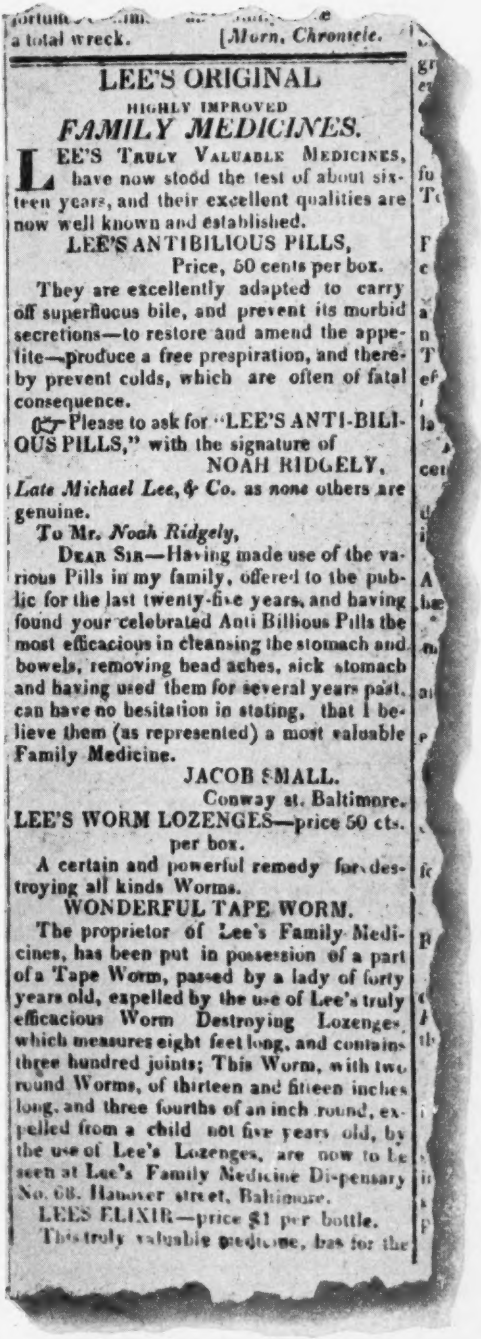
Consequently, the next advertisement for Saunders came nearly two years later (1838) when he used the first decorated drug advertisement in the *Woodville Republican.* It was for Coster and Coxe's "Original Southern Tonic for Fever & Ague and every symptom of general Debility speedily and permanently cured...."[52] The style of the advertisement suggests that the format may have been prepared by an agency and that probably Saunders did not even pay for it.

"Last call—But One!"

Saunders only advertised once more, this time for Peters' Vegetable Pills,[53] probably under the same circumstances as for the tonic. His financial status was revealed without much doubt by the following: "Last Call! But One!! All those indebted to the subscriber, either by note, account, or otherwise, will please call and settle the same...or they will be placed in the proper officer's hands for collection. J. Saunders."[54] Also, in the same issue was a notice of a "new arrangement" for a "Cash Store, ...feeling the importance of a cash system...."

Saunders evidently "felt" the need for a cash system quite a while, for it was not until 1843 that he resumed advertising again and only very briefly for Thompsonian and other "patent" medicines.

In the meantime, Doctors Stone and Martin may have fared little better than Saunders. They had one drug advertisement[55] and two other advertisements in 1838, one for "Hull's Utero—Abdominal Supporters,"[56] and the other for "Lemon Syrup."[57] Dr. Martin sold his interest in the store in 1839 to Dr. Stone,[58] who



a total wreck. [*Morn. Chronicle.*

LEE'S ORIGINAL
HIGHLY IMPROVED
FAMILY MEDICINES.

LEE'S TRULY VALUABLE MEDICINES, have now stood the test of about sixteen years, and their excellent qualities are now well known and established.

LEE'S ANTIBILIOUS PILLS,
Price, 50 cents per box.

They are excellently adapted to carry off superfluous bile, and prevent its morbid secretions—to restore and amend the appetite—produce a free prespiration, and thereby prevent colds, which are often of fatal consequence.

☞ Please to ask for "LEE'S ANTI-BILIOUS PILLS," with the signature of
NOAH RIDGELY,
Late Michael Lee, & Co. as *none* others are genuine.

To Mr. Noah Ridgely,

DEAR SIR—Having made use of the various Pills in my family, offered to the public for the last twenty-five years, and having found your celebrated Anti Billious Pills the most efficacious in cleansing the stomach and bowels, removing head aches, sick stomach and having used them for several years past, can have no hesitation in stating, that I believe them (as represented) a most valuable Family Medicine.

JACOB SMALL.
Conway st. Baltimore.

LEE'S WORM LOZENGES—price 50 cts. per box.

A certain and powerful remedy for destroying all kinds Worms.

WONDERFUL TAPE WORM.

The proprietor of Lee's Family Medicines, has been put in possession of a part of a Tape Worm, passed by a lady of forty years old, expelled by the use of Lee's truly efficacious Worm Destroying Lozenges, which measures eight feet long, and contains three hundred joints; This Worm, with two round Worms, of thirteen and fifteen inches long, and three fourths of an inch round, expelled from a child not five years old, by the use of Lee's Lozenges, are now to be seen at Lee's Family Medicine Dispensary No. 68. Hanover street, Baltimore.

LEES ELIXIR—price $1 per bottle.
This truly valuable medicine, has for the

Part of postmaster West's advertisement for "Lee's Family Medicines" is shown above as it appeared in the Woodville Republican *on January 20, 1824.*

announced that he would continue the practice of his "profession."[59] In 1840 Dr. Martin resumed his practice.[60]

Dr. Stone continued to advertise, usually a "limited" quantity of various items such as tooth brushes,[61] and quinine ($5 per ounce).[62] Eventually he changed to a "cash" or "short credit" business (1842).[63] Dr. Stone concluded his advertising in 1843 by listing school books, medicines and other items from Philadelphia[64] and "quinine, Jayne's Hair Tonic, Thompsonian wine and spice, bitters, composition paint brushes, superior shaving soap, cologne, Florida water, &c. just received."[65]

While the two "drug" stores just discussed probably reflect to a large extent not only the status of pharmacy and medicine, but also general business conditions during the years 1832–1843, other stores continued to handle drugs, especially "patent" medicines. This is shown by the common single advertisements.

The F. S. Mayes general store added several drug items in 1837. It was the first store to advertise "Dr. Sappington's celebrated Anti-Fever Pills, an unrivaled cure for Ague & Fever, Bilious Fever & Typhus or Nervous Fever."[66] (Sappington's pills were later proved to contain quinine, which he then admitted.[67]) The Collins store advertised tomato pills,[68] and other general stores advertised American Tonic Pills,[69] Peters' Pills,[70] Doctor's lancets, toothache drops, and Dr. Spencer's Antibilious Pills.[71]

The *Woodville Republican* announced in 1843 that a botanic physician with vegetable medicines for sale had begun to practice in Witesville.[72] Earlier it reported establishment of a general agency of Dr. Thompson at Jackson, La.[73]

Geographical Sources

Of the fourteen stated sources of medicine shipments, six were from Philadelphia,[18, 22, 26, 64, 74, 78] three each from New York [18, 42, 83] and Columbus, Ohio,[44, 51, 77] and one each from Baltimore,[18] Boston,[18] and Europe.[18] In many cases the place of shipment was not given, and in others, some indefinite term, e.g., "the North," was used. Sometimes special factors were also involved (such as the three shipments of Thompsonian drugs from Columbus, Ohio), so that no definite conclusion as to the relative importance of the shipping points seems justified.

Ills For Which Drugs Were Advertised

The ills and miscellaneous purposes for which drugs were advertised represent a rather startling and unusual assortment, as viewed from the vantage point of modern pharmacy and medicine. Here is the list:

all chronic diseases[68]
ague[12]
aperient[75]
baldness[83]
biliousness[12]
bone diseases[13]
burns[83]
carminative[9]
chaps[84]
chilblains[81]
cholera[42]
chalybeate[80]
colds[83]
consumption[83]
corns[12]
cough[22]
cutaneous diseases[13]
debility[13]
diseases of this climate[79]
diseases of impurity of the blood[68]
dropsy[83]
dysentery[9]
external evil, every external of man or beast[81]
fever[12]
fever sores[81]
freckles[84]
gout[9]
headache[83]
hernia[82]
human diseases, nearly all[63]
itch[9]
lameness[83]
long life[42]
mercurial disease[13]
nausea[69]
nervous fever[66]
nervous weakness[69]
nervousness[12]
obstinate and ambiguous diseases[76]
piles[75]
rabid dog bite[81]
rheumatism[9]
scalds[83]
scrofula[13]
sores[83]
sore throat[13]
spider and snake bites[81]
strength[42]
syphilis[13]
tonic[42]
toothache[9]
typhus fever[66]
ulcers[81]
ulcers of the larynx[13]
venereal disease[13]
vermin[83]
wounds[81]
white swelling[13]
worms[9]
yellow fever[40]

Summary and Conclusions

A study of drug and medical advertising in Woodville, Mississippi (1823–1843), leads to the following conclusions:

1. Drugs were advertised for ills in both specific and general terms, including practically every ill known to "man or beast." Special emphasis was placed on ills peculiar to the South.

2. The populace did have physicians available, with their lancets and cupping instruments, but also relied on such schemes as Thompsonianism and those of other "herb" doctors.

3. The status of pharmacy in Mississippi during this early period of statehood is what would be expected with no legal control or education requirements. Competition was

the primary regulator. General stores, physicians and "herbs" doctors, along with "legitimate" drug stores, sold drugs and medicines to the limit the traffic would bear.

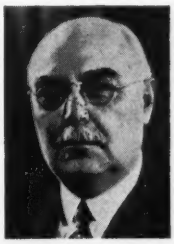
4. In a limited study of places of shipment of drugs, Philadelphia was first, followed by New York, Columbus (Ohio), Baltimore, Boston, and Europe, but no general conclusion is justified.

5. Drug and medical advertising during the period of this study reflects the boom period 1830–1836, the panic of 1837, and the slow economic recovery up to 1843.

REFERENCES

1. Sydnor, C. S., and Bennett, C., "Mississippi History," Rand McNally & Co., New York, 1930, p. 145.
2. Hodge, S. W., "Attitude of *Woodville Republican* Toward National Questions 1823–1848," thesis, University of Mississippi, 1921 (preface).
3. Fulkerson, H. S., "Random Collections of Early Days in Mississippi," reprinted by Otto Claitor, Baton Rouge, La., 1937 (introduction).
4. (Federal Writer's Project), "Mississippi, A Guide to the Magnolia State," Viking Press, New York, 1938, p. 88.
5. *Ibid.*, p. 129.
6. *Ibid.*, p. 129.
7. "American Newspapers," H. W. Wilson Co., New York, 1937.
8. Urdang, G., *Pharm. Archives*, 14, 13 (1943).
9–21. FROM *Woodville Republican:* (9) Dec. 18, 1823, (10) Jan. 1, 1824, (11) Jan. 6, 1824, (12) Jan. 20, 1824, (13) April 27, 1824, (14) Dec. 11, 1824, (15) Dec. 18, 1823, (17) Sept. 9, 1826, (18) June 3, 1828, (19) June 24, 1828, (20) June 9, 1829, (21) Dec. 25, 1830.
22–26. FROM *Mississippi Democrat:* (22) March 12, 1831, and April 30, 1831, (23) June 4, 1831, (24) June 25, 1831, (25) July 23, 1831, (26) Sept. 10, 1831.
27. Sydnor, C. S., and Bennett, C., "Mississippi History," Rand McNally & Co., New York, 1930, p. 157.
28–30. FROM *Woodville Republican:* (28) July 20, 1833, (29) March 1, 1834, (30) Aug. 16, 1834.
31–32. FROM *Southern Planter:* (31) March 10, 1832, (32) April 14, 1832.
33–36. FROM *Woodville Republican:* (33) May 4, 1833, (34) July 29, 1833, (35) April 15, 1837, (36) March 1, 1834.
37. *Southern Planter*, Aug. 11, 1832.
38–66. FROM *Woodville Republican:* (38) July 5, 1834, (39) Oct. 4, 1834, (40) March 28, 1835, (41) May 16, 1835, (42) May 30, 1835, (43) & (44) Sept. 26, 1835, (45) Nov. 21, 1835, (46) May 21, 1836, (47) Aug. 12, 1836, (48) Feb. 25, 1837, (49) Aug. 5, 1837, (50) Dec. 9, 1837, (51) June 11, 1836, (52) Sept. 15, 1838, (53) April 27, 1839, (54) Nov. 23, 1839, (55) May 5, 1838, (56) June 9, 1838, (57) Aug. 9, 1838, (58) Jan. 19, 1839, (59) Jan. 5, 1839, (60) Feb. 8, 1840, (61) May 23, 1840, (62) Nov. 21, 1840, (63) Jan. 8, 1842, (64) July 1, 1843, (65) Sept. 9, 1843, (66) April 15, 1837.
67. Ackerknecht, E. H., "Malaria in the Upper Mississippi Valley 1760–1900, Supp. Bull. Hist. Med. No. 4," The Johns Hopkins Press, Baltimore, 1945, p. 120.
68–73. FROM *Woodville Republican:* (68) May 2, 1840, (69) May 22, 1841, (70) May 21, 1842, (71) May 9, 1842, (72) Feb. 25, 1843, (73) Sept. 12, 1835.
74. *Mississippi Democrat*, Aug. 13, 1831.
75–84. FROM *Woodville Republican:* (75) Jan. 26, 1833, (76) July 5, 1834, (77) Aug. 22, 1835, (78) Sept. 12, 1835, (79) Feb. 25, 1837, (80) Aug. 17, 1839, (81) May 2, 1840, (82) June 6, 1840, (83) Feb. 4, 1843, (84) Feb. 25, 1843.

Josiah K. Lilly



1861 1948

IN THE death of Josiah K. Lilly the AMERICAN PHARMACEUTICAL ASSOCIATION, and the entire pharmaceutical profession and industry, lose an outstanding figure in the advancement of pharmacy and its public services. Mr. Lilly's distinguished contributions were recognized by the ASSOCIATION through his election as honorary president for the 1934–35 term and by his selection to receive the Remington Honor Medal in 1942, awarded by the ASSOCIATION'S New York Branch. Eight universities conferred upon him honorary degrees.

Mr. Lilly was the son of the founder of Eli Lilly and Co. and received a thorough training in pharmacy—in his father's establishment, from the practical viewpoint, and academically as a student at the Philadelphia College of Pharmacy.

Following graduation in 1882, he became superintendent of the Lilly laboratories. Upon the death of his father in 1898 he succeeded to the presidency, continuing in this office until 1932 when he became chairman of the Board.

In the ensuing years Mr. Lilly never lost interest in the details of this large pharmaceutical enterprise nor in the development of pharmaceutical science, for which he was noted. He fostered research not only in his own organization but through contributions to universities and laboratories dealing with fundamental research. He gathered about him men of the highest qualifications in scientific research, economics and business development. He witnessed the growth and development of his firm to the point where it played a prominent part in making available to uncounted thousands of sufferers from such ailments as diabetes the new drugs that prolong the span of life.

Mr. Lilly also found time for civic and cultural pursuits. He earned the gratitude of Indiana citizens as president of the Y. M. C. A., active supporter of the Red Cross, organizer and trustee of the Indianapolis Foundation, and in raising funds during World War I and establishing Base Hospital No. 32. His collection bearing on the life and work of Stephen Collins Foster became the most extensive of its kind in the music world, numbering over 10,000 items. He earned tribute from many young men and women whose education he aided.

Josiah K. Lilly died in Indianapolis on February 8 at the age of 86.

National Assembly Will Chart Health Needs

PHARMACY REPRESENTATIVES NAMED TO EXECUTIVE GROUP

WHEN the National Health Assembly convenes in Washington May 1 to 4, pharmacy will not only participate in the panel discussions but will have been represented on the Assembly's executive committee by Dr. Robert P. Fischelis, secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, and John W. Dargavel, secretary of the National Association of Retail Druggists.

In a message asking Secretary Fischelis to serve on the executive group, Administrator Oscar R. Ewing of the Federal Security Agency said: "The President has requested me to develop feasible national health goals for the next ten years. To assist me in mapping out a practical program I am considering calling a national conference on the state of the nation's health. Cooperative action by all interested public, professional and voluntary groups is imperative in the development of a comprehensive program for raising health levels. I am asking about thirty-five outstanding citizens to serve with me on a representative executive committee for such a conference. It is essential that I have the benefit of advice on the highest possible level in such an important undertaking."

Plans for the four-day session are now being formulated, most of which will be devoted to panel discussions for exploring specific phases of health problems.

Although the American Medical Association has already expressed alarm that the Assembly may be used for political purposes or propaganda on national health insurance, Mr. Ewing emphasized that the primary objectives of the National Health Assembly will be to define the boundaries of the non-controversial health field and unite support for action in this area while national health insurance continues to be debated. In addition Mr. Ewing listed three benefits that he hoped would emerge from the National Health Assembly:

"(1) a guide to community action for local health improvements;

"(2) a detailed, practical pattern of cooperation among all organizations operating in the health field—public and private; national, state and local; and

"(3) a more detailed and specific knowledge of our present health picture and of the job that has to be done to improve it."

Looking askance at the preponderance of non-medical men on the executive committee, the A. M. A. *Journal* indicated that "the implications involved in such an assembly are so serious for the medical profession that it should be called into early conference on the development of the program, the publicity and the ultimate use of the material developed by the conference, if full participation by the medical profession is requested."

At a press conference announcing the assembly, however, Mr. Ewing took the view that "In the final analysis, health is the people's job. We can have national interest and action only to the extent that we have community interest and action."

Mr. Ewing reiterated his belief that "medical personnel is the bottleneck of medical care," particularly with regard to physicians in many areas, a situation he terms as "nearing crisis proportions." This view has also been sharply challenged by the *Journal of the American Medical Association.*

At his press conference Mr. Ewing pointed to the shortage of Negro physicians as a particularly difficult phase of the personnel problem. In reply to a query, he expressed the belief that the "only solution to the Negro health problem in the South is to have more Negro physicians." Aside from humanitarian considerations involved in the high disease rate among Negroes, he said, the public must recognize that racial segregation can never segregate infection.

With regard to the forthcoming Assembly, the Federal Security Administrator stressed that an effort would be made to obtain participation by all interested groups, to stimulate "grass roots" interest, and to get local communities aroused to their needs.

science news capsules

"FACTOR B" has been revealed as the first material manufactured by a living plant through the energy of sunlight. This discovery may be to the artificial manufacture of food, what discovery of uranium fission was to the atomic bomb. "Factor B," although so far unidentifiable as any known chemical, is perhaps the most promising development thus far achieved by use of radioisotopes. The work was conducted by Drs. Hans Gaffron, A. H. Brown and E. W. Fager of the University of Chicago. Speculation among scientists is that further research in this field might find the key to duplicating in factories the year round what the farms and forests of the world work at only in the summer growing season.

AMERICAN INFANTS of the "middle class" get just about average treatment compared with babies in other parts of the world. This conclusion appears in a study of infant care among 85 different peoples made by Dr. J. W. M. Whiting of the State University of Iowa and reported to the A. A. A. S. With regard to severity, the American mother takes a place at the most harsh end of the scale concerning sex and toilet training. She is most indulgent in training for independence. Among the peoples of the world studied, the American mother is just average in weaning her baby and in teaching modesty and control of aggressiveness.

CASTRIX, a new rodenticide, appears to be at least five times more effective than ANTU or 1080. It is readily accepted in rat baits and does not produce a tolerance. Castrix poisons other animals but has antidotes in the barbiturates, apparently becoming the only highly toxic rat poison to have an effective antidote. Research on the new compound was reported in the pharmacy subsection of the A. A. A. S. meeting by Prof. K. P. DuBois of the University of Chicago's Toxicity Laboratory. Castrix was developed from a German formula in a project sponsored by the U. S. Chemical Corps.

HOUSEFLIES resistant to the effects of DDT and other standard insecticides have been developed in a U. S. Department of Agriculture laboratory. The possibility of such strains appearing in nature is reemphasized by reports that houseflies are becoming more difficult to kill with DDT in several parts of the U. S. and some foreign countries. Historic examples of insects developing resistance to standard insecticides usually have required about two decades to appear.

MALACHITE GREEN almost completely blocks the growth of tobacco mosaic virus without harming the plant cells, according to research by plant pathologist W. N. Takahashi announced by the University of California. Action of the dye might be a clue to the long-sought chemical treatment for virus diseases.

MEN are more likely to have stomach ulcers because women, although they react more to stress; relax more rapidly and recover more quickly. This explanation of sex differences in the incidence of ulcers was suggested by Dr. L. W. Sontag of the Fels Research Institute, Yellow Springs, after testing reactions to experimental stress among groups of boys and girls.

RELAX IN ACTION to help keep your blood pressure under safe control, is the essence of a report made to the A. A. A. S. by Dr. Edmund Jacobson of the Laboratory of Clinical Physiology, Chicago. He reported "marked improvement" in 17 patients treated by this method. The patient learns to relax individual groups of muscles at will and to recognize when such muscles become tense during the mental and physical activities of daily life.

FIVE MILLION PICTURES a second is the speed of a new motion picture camera developed at the University of Rochester's Institute of Optics. This is claimed to be ten times faster than any high-speed camera produced before. When a picture of a rifle bullet is thrown on a screen at ordinary speed it takes a minute for the bullet to move one inch.

BAL restored eyesight in a patient whose optic nerve was being damaged by arsenic poisoning, following tryparsamide therapy. The dramatic recovery followed daily injections of BAL (2,3-dimercaptopropanol) for ten days, as reported by Dr. Sidney Friedenberg, of Camden, N. J. The unusually rapid return of vision was attributed to the action of BAL at an early stage of damage; optical damage in late stages of arsenic poisoning is considered permanent.

HOW SEX CAME into existence may have been shown in research reported to the A. A. A. S. by Dr. C. L. Huskins and his associates at the University of Wisconsin. Treatment of cells usually considered sexless with indole-3-acetic acid (a growth-control chemical) produced cell divisions of a type usually found only in the active sex cells of plants. Sex

evolution proceeded in four steps, according to Dr. Huskins' interpretation. His work also revealed a great complexity of structure in chromosomes that may have far-reaching effects in genetic theory and plant and animal breeding.

FISH have an acute sense of smell. They can tell the difference between the scents of underwater plants even more sensitively than man can tell the difference between rose and violet perfumes. Evidence to back this contention is offered by Zoologist T. J. Walker from experiments conducted at the University of Wisconsin.

SCIENTIFIC MOVIE producers of 20 countries have formed an International Scientific Film Association. The organization is planned as a clearing house of world-wide scope for scientific films.

RUSSIAN DISCOVERY of large amounts of ascorbic acid in green walnuts might lead to a new American industry. Department of Agriculture scientists found that the vitamin was also present in discarded hulls of ripe English walnuts—about 125,000 pounds recoverable annually from this by-product of California growers. Work is now under way to evaluate more carefully the economic possibilities of walnut hulls as a commercial source of ascorbic acid. Incidentally, English walnuts are of Persian origin.

BRUCELLOSIS VACCINE, developed at Michigan State College, is now getting state-wide trial. The College laboratory can produce enough vaccine to immunize 2000 cattle daily. Distribution will be limited to Michigan veterinarians, and the vaccine will not become generally available until its effectiveness has been evaluated fully and a Federal license obtained.

THE SUN will probably finish its life in about ten billion years by becoming fainter and fainter until no longer able to support life on the earth or other planets. This prediction by Prof. George Gamow of George Washington University is based on a detailed study of the present rate at which the sun's fuel supply burns and the nature of the probable nuclear process.

HYDROABIETYL ALCOHOL is the first commercially available primary alcohol to be developed from rosin (Hercules Powder Co.). This viscous alcohol may be used in the synthesis of such products as detergents, wetting agents, resins, antioxidants and parasiticides.

HYPERTENSION due to excessive production of epinephrine by tumors (pheochromocytoma) may be identified by use of piperidylmethyl benzodioxane, which blocks the action of epinephrine. This form of hypertension, heretofore difficult to diagnose, may be cured by surgical removal of the tumors. The diagnostic test has been described by Dr. Marcel Goldenberg and his associates of Salt Lake City (*J. Am. Med. Assoc.*, 135: 971, 1947).

JOSIAH C. PEACOCK DIES

THE death of Josiah C. Peacock on February 18 marked the passing of another distinguished pharmacist. His selection as honorary president of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1941 recognized his lifetime of outstanding service in education and research, retail practice and manufacturing pharmacy.

He was born in Millington, Md., August 24, 1869, first entered the practice of pharmacy as an apprentice in 1885, and later graduated from the Philadelphia College of Pharmacy in both pharmacy and chemistry. Mr. Peacock then joined the staff of Parke, Davis & Co., but soon returned to his alma mater as instructor in chemistry and as a research associate of Prof. Harry Trimble. Here he developed an interest in the chemistry of the tannins and tannin-bearing drugs, which he maintained throughout his career. In 1898, upon the death of Prof. Trimble, he directed the chemical laboratory.

The following year he reentered the practice of pharmacy as a proprietor, and after a time moved to a fast-developing section of Philadelphia where he practiced until 1918. Mr. Peacock later joined the H. K. Mulford Co. and was in charge of educational and product development work from 1923 until he retired from active duty in 1929. In recent years illness kept him largely confined to the vicinity of his home, but his interest in pharmacy continued.

He had served as president and first vice-president of the Pennsylvania Pharmaceutical Association, chairman of the A. PH. A. Section on Practical Pharmacy and Dispensing, treasurer of the National Pharmaceutical Service Association, member of the board of trustees of the Philadelphia College of Pharmacy and Science, and chairman of the Centennial Committee on College Membership. The College also conferred upon him the honorary degree of master in pharmacy.

His wife, the former Bertha L. DeGraffe, is also a graduate in pharmacy. Together, they contributed a number of papers to the literature and to A. PH. A. meetings on plant analyses, plant principles (especially the tannins) and problems of practical dispensing. Their investigations continued during the years of active retail practice, a noteworthy example of original contributions by practicing pharmacists while at the same time serving the general health needs of the community.

[As this issue went to press, word reached the Journal that Mrs. Peacock died on March 21.]

INFORMATION SERVICE

Members of the American Pharmaceutical Association are invited to submit their professional problems to the Journal, 2215 Constitution Ave., N. W., Washington 7, D. C., giving all pertinent details. Advisory service is provided by the A. Ph. A. library and technical staff and the Journal panel of technical consultants.

IS IT STABLE?

What procedure would you recommend for compounding the following prescription? Is there any reason this preparation cannot be made and kept for some time?

Precipitated sulfur	*12*
Balsam Peru	*12*
Lanolin	
Petrolatum āā, q. s. ad	*120*

—S. Z., Ohio

This prescription has been made up with both lanolin and anhydrous lanolin and the preparation has remained stable for ten days. There is no evidence that any change should be expected. The balsam Peru was mixed with the lanolin, followed by half of the petrolatum. The remaining portion of petrolatum was mixed with the sulfur and then the two ointment masses were combined.

AN INCOMPATABILITY

We have had some difficulty in compounding the following prescription. We would appreciate any help you can give us.

Acidum acetylsalicylicum	ʒ *ii*
Sodii bromidum	ʒ *iiss*
Elixir terpin hydrate	ʒ *iss*
Elixir glycerophosphate	ʒ *ii*
Milk of bismuth	ʒ *vi*
Cas evac P. D.	ʒ *vi*
Syrup of cherry, q. s. ad	ʒ *vi*

—E. K., Ohio

This prescription appears to be a case of acetylsalicylic acid not dissolving, and in addition there is a precipitation of the milk of bismuth. If the aspirin is finely powdered and incorporated, the resulting preparation would be satisfactory in a general way. Of course a "shake label" will be required.

It might be expected that the terpin hydrate would crystallize with the aqueous phase, but there is an insufficient amount of terpin hydrate in the final elixir to cause precipitation. Storage for several days in a refrigerator did not even cause crystallization.

USE OF WINE IN VEHICLES

What wines other than Sherry Wine N. F. may be used in manufacturing pharmaceuticals?—V. P., Texas

Any type of wine may, under certain conditions, be used in a vehicle for unofficial preparations. Requirements governing use of wine in this manner are established by the Alcohol Tax Unit, Bureau of Internal Revenue, Washington 25, D. C.

In general, when wine is used for this purpose it must be medicated or otherwise made unfit for beverage purposes. A preparation containing two U. S. P. or N. F. doses in each fluidounce of an official drug, or two established doses of an unofficial drug of recognized therapeutic merit, is considered acceptable if it is actually unfit for beverage purposes.

For example, a wine preparation containing in each fluidounce two official doses of nux vomica fluidextract might be considered unfit for beverage purposes, whereas a prepa-

ration containing any number of doses in excess of two per fluidounce of thiamine hydrochloride would still be considered suitable for beverage use. In cases such as the latter the addition of at least 40 Gm. per 100 cc. of solids consisting of glycerin, sugar, dextrose or other suitable material would make the product satisfactory from the standpoint of the officials in the Alcohol Tax Unit.

For specific advice concerning legal requirements you should query the Alcohol Tax Unit, submitting the formula and a sample of any particular product you have in mind.

BURGUNDY PITCH

Kindly tell us where we may obtain Burgundy pitch. We have a formula which includes this product.—O. G., California

Burgundy pitch suitable for pharmaceutical uses may be obtained from S. B. Penick & Co., 50 Church St., New York 7; or 725 West Division St., Chicago 10, Ill.

GLUTAMIC ACID SUPPLIERS

Please name a supplier of glutamic acid having a quality suitable for medicinal purposes.—O. G., California

Glutamic acid may be obtained from such distributors as: Mann Fine Chemicals, Inc., 136 Liberty St., New York 6; R. W. Greef and Co., 10 Rockefeller Plaza, New York 20; or the Amend Drug & Chemical Co., 117 E. 24th St., New York 10.

EFFERVESCENT SACCHARIN

Please give me a formula for effervescent saccharin tablets.—B. G., Virginia.

We have been unable to locate a specific formula for manufacturing effervescent saccharin tablets. This type of tablet is usually prepared by incorporating the active material with a suitable granulated mixture of a bicarbonate and an organic acid such as citric or tartaric and then compressing in the usual way.

Help starving children . . .

President Truman says: "I am convinced the American people are determined that the world's children shall have at least a chance to survive and I know of no better way of transforming that determination into action than by supporting American Overseas Aid and the United Nations Appeal for Children."

AOA-UNAC was organized at the request of the government with the active help of the State Department to bring under one roof the important American volunteer agencies for foreign relief and service and the American part of the United Nations Appeal for Children. This organization offers better over-all control and places every safeguard around your gift. Children are starving in many parts of the world. You can help them stay alive by contributing to...

AMERICAN OVERSEAS AID AND UNITED NATIONS APPEAL FOR CHILDREN

39 Broadway **New York 6, N. Y.**

(Contributions deductible for income tax purposes)

IDIOSYNCRASY TO DRUGS

an unsolved problem

IDIOSYNCRASIES to new drugs remain one of the most challenging problems in medicinal therapeutics. Advances in drug therapy during the past century include little new knowledge of the *qualitative* abnormality in response, or true "idiosyncrasy." The *quantitative* variation in response to drugs has been seriously studied in recent years and considerably clarified.

During this time the distinction between the two types of abnormal reactions has become generally recognized. The line was clearly drawn, and the problem of idiosyncrasy elucidated, in an address delivered by Dr. Carl A. Dragstedt of the Northwestern University Medical School.

He points out that after account is taken of tangible factors—such as age and weight—which might alter the susceptibility to drugs, there still remains a rather wide normal variability in the quantitative response.

This is now expressed in the literature by such terms as ED_{50}, ED_{99} and ED_1. The first represents the average dose of a drug that gives an effective therapeutic response in 50% of the population. The other two terms express the range of variation by indicating the doses that will be effective in 99% and 1% of the population. Clinicians interested in the subject have pointed out that this variability is characteristic of drugs and is too often overlooked in drug therapy, due to the emphasis on the "average dose."

Dragstedt urges that patients showing susceptibilities at or beyond the extremes of ED_{99} and ED_1 be called "tolerant" on the one hand and "hypersensitive" on the other. This restricts the term hypersensitiveness to patients exhibiting an exaggerated quantitative response.

The term idiosyncrasy, in the proper sense, refers to unusual qualitative responses, represented by such effects as urticaria, leukopenia, jaundice and anemia. Reactions of this kind occur in some persons with some drugs; they do not occur in the majority of persons no matter what dose is employed.

What persons exhibit idiosyncrasies? Dragstedt points out that it is not understood whether they are those with some constitutional defect, unchangeable and incurable, or those in a transitory state brought about by disease or nutritional deficiency. The question of whether that fraction of the population with a predisposition to allergy is the same fraction that shows idiosyncrasies lacks a decisive answer.

What drugs produce idiosyncrasies? Physicians and pharmacists have become aware through observation that certain drugs—such as aminopyrine, sulfonamides and thiouracil—produce idiosyncrasies considerably more often than others—such as cascara, digitalis and alcohol. However, there appears to be little ground for prophesying the potential of idiosyncrasy of a new drug.

"It seems clear," Dr. Dragstedt observes, "that certain drugs, by combining with body proteins to form antigenic conjugates to which the body may then become anaphylactically reactive, produce their untoward effect by this immunologic mechanism. But in many instances the occurrence of an idiosyncrasy to a drug is the only evidence one has that such an antigenic conjugate exists or can be produced, and there is no laboratory method by which this can be determined with certainty."

In considering further the character of idiosyncrasies, Dragstedt places untoward reactions in three broad classes:

1. Some untoward or toxic manifestations should not be considered as true idiosyncrasies. Examples cited—Urinary suppression that may occur with some sulfonamides that is accounted for by their excretion and precipitation in the urine: undoubtedly a toxic phenomenon that could be produced regularly if proper precautions were not taken. Prothrombinopenia and hemorrhagic tendency from large doses of salicylate compounds: a normal toxic response that should not be called an idiosyncrasy even though it does not occur in every case.

2. Some reactions to drugs meet the various criteria characteristic of allergic reactions. Examples cited—Untoward reactions to acetylsalicylic acid and a sub-

stantial number of the sulfonamide and penicillin reactions.

3. Types of idiosyncrasy in which the weight of evidence indicates that the reaction is not of an allergic nature. Examples cited—Jaundice produced by various drugs; untoward reactions from neoarsphenamine and oxophenarsine hydrochloride; polyneuritis due to sulfonamides.

Provisional criteria are suggested in an attempt to distinguish between allergic and nonallergic types of reactions:

"1. An allergic basis seems to be indicated when the pattern of the toxic reaction is consistent with that of the allergic disorders produced by antigenic agents. This means that reactions characterized by urticaria, dermatitis, angioneurotic edema and asthma are probably allergic in character; that reactions characterized by jaundice, acute yellow atrophy of the liver and optic atrophy are probably not allergic, while granulocytopenia, anemia, thrombocytopenia and polyneuritis may well be one or the other.

"2. An allergic basis seems to be indicated when a priming or sensitizing administration of the drug appears to be a factor in the history, while a nonallergic basis seems to be indicated when either long-continued administration or the use of substantial doses appears of major importance.

"3. An allergic basis seems to be indicated when the untoward reactions are alleviated by epinephrine, diphenhydramine hydrochloride ('Benadryl hydrochloride' N. N. R.) and similar agents, whose ameliorating effects are most reasonably interpreted on the basis of an antiallergic effect. A nonallergic basis seems to be indicated for those reactions which are alleviated by ascorbic acid, folic acid, thiamine and other agents whose ameliorating effect is not reasonably credited to an antiallergic effect.

"Such a classifying of reactions would become only an exercise in semantics," Dr. Dragstedt concludes, "unless it pointed the way to a solution of the two important aspects of this problem of idiosyncrasy: the ability to forecast the likelihood of idiosyncrasy on the part of a given drug and the ability to control or treat the reactions that occur. With respect to the latter it seems clear that the general methods of preventing and treating allergic reactions would be different from those appropriate to the nonallergic responses. With respect to the former there are hints in the literature... that a propensity of a drug to produce untoward reactions in man might be determined by a more exacting study of its effects in experimental animals.

"It is obvious from what has been said as to the tenuous nature of the current understanding of idiosyncrasies that this is one problem that has challenged physicians seriously and thwarted them [due to] indifference and neglect at coming to grips with the problem, largely because all have been buoyed with the hope that they could learn to evade it."

—*J. Am. Med. Assoc., 135:133, 1947*

Briggs Rejoins Navy; Succeeded by Geiger in VA

DR. W. Paul Briggs of Washington, D. C., has joined the new Medical Service Corps of the Navy and is expected to head the pharmacy service in this corps. He resigned his position as chief of the Veterans Administration pharmacy division at the end of 1947 to reenter the Navy with rank of commander.

Administrative accomplishments during Dr. Briggs' year and three-quarters in the Veterans Administration include establishment of a nationwide, home-town pharmacy service and improvement of the caliber of pharmacy standards and service in VA hospitals, homes and regional offices.

Dr. Briggs' assistant in the Veterans Administration, E. Burns Geiger, succeeds him as chief of VA's pharmacy division. Mr. Geiger, a graduate of the George Washington University School of Pharmacy, was in retail practice prior to entering the Navy. After his release to inactive duty as a lieutenant, Mr. Geiger practiced pharmacy at the Washington County (Md.) Hospital until he joined VA in May, 1946.

The new VA pharmacy chief is a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, American Society of Hospital Pharmacists and the Maryland and District of Columbia Associations.

drug digest

NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS AND OTHER PROFESSIONAL DATA

"HEATSTROKE" MECHANISMS SHOWN BY ANIMAL STUDY

"Heatstroke" produced experimentally in animals has permitted observations that apparently clarify certain phases of the clinical picture of heat pyrexia seen in man. Drs. W. M. Daily and T. R. Harrison of Dallas, Texas, found that the "pink stage" of heatstroke is characterized by greatly increased cutaneous blood flow, and in the "gray stage" (vascular collapse), a generalized vasodilation produces peripheral circulatory failure.

Hyperthermia is reduced most rapidly, with the best chance of the animal's survival, by use of an ice bath. Fluids in moderate doses produced increased survival time. Massive intravenous infusions, however, produced heart failure in rats during hyperthermia, while the same infusion was well borne by rats at normal temperature. This demonstrates a reduced capacity of the heart muscle at excessively high body temperatures.

—Am. J. Med. Sci., 215: 42, 1948

USE OF DRUGS IN EPILEPSY

A drug that is good for one type of epileptic seizure may be bad for another type, Dr. Frederic A. Gibbs of the University of Illinois College of Medicine points out. Physicians should be aware of the clinical and electroencephalographic features of the major types of seizure, he cautions, and should be able to apply with discrimination the six or seven remedies that are now of recognized value: Dilantin, phenobarbital and Mesantoin (for grand-mal and focal seizures), Tridione, Mebaral and ketogenic diet (for petit mal and myoclonic types).

The general blood picture should be constantly checked with the administration of the five drugs mentioned. Dosage of drugs should be raised until seizures are controlled or until limiting side effects or signs of sensitivity develop, Dr. Gibbs states. Bromides are of limited value because their anti-convulsant action is feeble and the toxic dose is close to, or identical with, the anti-convulsant dose in a great majority of cases.

—Ann. Int. Med., 27: 548, 1947

REPORT TOXICITY SKIN TESTS ON POLYETHYLENE GLYCOLS

Polyethylene glycols and Carbowaxes, ingredients frequently used in ointment bases and cosmetics, have been tested for toxicity by Dr. F. P. Luduena and associates at the Stanford University School of Medicine. In various doses applied externally on rabbits they were found to be not entirely non-toxic. In this preliminary study it was noted that rabbits fed certain diets were more susceptible than others.

—Jour. Indus. Hyg. & Toxic., 29: 390, 1947

STERILE BENTONITE CREAM BASES OF KNOWN *pH* VALUE

Sterile bentonite creams which can be adjusted to any desired *p*H value with standard sulfuric acid have been perfected by Arnold Axon of London. The formula is as follows:

Bentonite	2
Lanette wax SX*	5
Hard paraffin	3
Liquid paraffin	25
Water, to	96

The 4% of water omitted represents a convenient amount to allow for accurate measurement of the sulfuric acid. These creams can be sterilized and the *p*H value will remain constant after fluctuations during the first two days. It is reported that bentonite has no adverse effect on aqueous solutions of penicillin and can, therefore, be used to advantage in cream bases for this drug.

—Pharm. J. (London), 105: 135, 1947

---

* Nine parts of cetyl alcohol and 1 part of sodium lauryl sulfate (Duponol C) have been reported as equivalent to the British product, Lanette wax SX. A replacement for Lanette wax, called emulsifier "L," has been made available by R. F. Revson Co., 144 W. 18th St., New York 11.

HEMATOGENOUS TUBERCULOSIS RESPONDS TO STREPTOMYCIN

Administration of streptomycin to 17 patients with bacteriologically proved meningeal, miliary or other types of generalized hematogenous tuberculosis was followed in many instances by a striking clinical improvement. These results, reported by Dr. Carl Muschenheim of the Cornell-New York Hospital Medical Service, are in agreement with earlier studies reported from the Mayo Clinic.

Meningitis was present, or appeared during therapy, in 7 of the 13 patients with miliary tuberculosis, but was the principal cause of death in only two instances. In meningeal and generalized hematogenous tuberculosis, the administration of streptomycin resulted in a remission of the infection, permanent in some instances but followed by a fatal relapse in others when antimicrobial action was no longer present. The incidence of apparent recovery in miliary and meningeal tuberculosis treated with streptomycin to date has no precedent and is apparently due to antimicrobial activity.

The appearance in some cases of tubercle bacilli that are resistant to the action of streptomycin *in vitro*, reflects the presence of a drug-resistant infection *in vivo*.

—*Ann. Int. Med., 27: 769, 1947*

EXTEND STREPTOMYCIN STUDY IN PULMONARY TUBERCULOSIS

Administration of streptomycin to 43 selected patients with pulmonary tuberculosis was followed by measurable improvement in every instance, Dr. Carl Muschenheim and associates at the Cornell-New York Hospital Medical Service report. Periods of treatment ranged from 42 to 120 days. Only the 36 patients who were observed for at least six weeks following completion of therapy were considered in detail.

The greatest value of streptomycin is clearly in relatively acute processes, which can be materially influenced by a relatively short period of antimicrobial therapy. The drug is being credited with limited value, however, in certain cases of chronic tuberculosis, as in treatment of laryngeal and tracheobronchial complications and as an adjunct to surgical therapy.

Because of possible neurotoxicity, streptomycin is considered unsuitable for treatment of minimal pulmonary tuberculosis or of more advanced disease in which the outlook is favorable with conventional methods alone.

To use the drug unnecessarily, even though the immediate result be good, may amount to a wasting of a therapeutic resource for which there is possibility of later need, Dr. Muschenheim points out. The incidence of drug-resistant strains of bacilli was much lower when streptomycin therapy was continued for not more than six weeks. In every instance of relapse after the appearance of streptomycin-resistant organisms, the course of the infection was completely uninfluenced by the further administration of the drug.

—*Ann. Int. Med., 27: 989, 1947*

OXIDIZED CELLULOSE CONTROLS DENTAL BLEEDING EFFECTIVELY

Oxidized cellulose (Oxycel), used without thrombin, is recommended by Dr. C. D. Gwinn and his associates at the University of California's Division of Dental Surgery as an effective agent for the control of hemorrhage after dental operations. In 57 patients thus treated there was no slowing of the healing process, no instance of infection, and no evidence of greater pain or discomfort than in cases when oxidized cellulose was not used.

The evaluation was based on cases grouped in three categories: (1) patients with a history of prolonged bleeding after extraction, (2) cases of persistent bleeding during operation and (3) those patients having postoperative hemorrhage. In all cases dry oxidized cellulose was packed into the bony wall of the socket or placed over the socket opening.

Many agents used in the past to arrest hemorrhage have been destructive to tissues. This investigation was undertaken to evaluate substances that can be left in place in the tissue and that will dissolve or be absorbed without marked irritation or interference with healing.

An earlier report dealt with the use of fibrin foam with thrombin for this purpose (*J. Am. Dent. Assoc.*, 35:7, 1947). A third paper in the series will evaluate the use of absorbable gelatin sponge.

—*J. Am. Dent. Assoc., 36: 155, 1948*

THENYLENE SHOWS PROMISE IN CERTAIN DERMATOSES

Clinical tests by Drs. R. R. Kierland and R. T. Potter of the Mayo Foundation show that thenylene, a new drug with antihistamine properties, has value in treating certain dermatologic conditions. The most marked effect noted was in the treatment of dermatoses such as urticaria and angioneurotic edema. Doses of 50 to 100 mg., three to four times a day, led to a lessening or disappearance of the characteristic edema.

A clinical comparison of thenylene, benadryl and pyribenzamine revealed a high degree of similarity.

—*Proc. Staff Mayo Clinic, 23: 48, 1948*

COMMISSIONS IN PUBLIC HEALTH SERVICE

★★★★★★★★★★★★★★★★★★★★★★★★★★★★

applications for examination accepted until May 21, 1948

THE U. S. Public Health Service is preparing to commission additional pharmacists in its Regular Corps. Competitive examinations, announced in last month's issue, will be held June 21–23 for appointment in grades of Junior Assistant Pharmacist (2nd Lieutenant), Assistant Pharmacist (1st Lieutenant), and Senior Assistant Pharmacist (Captain).

The Commissioned Corps of the Public Health Service is organized on a basis similar to the Army and Navy, with salary, maintenance and other advantages paralleling these services in most respects.

Regular Corps appointments are permanent. They provide opportunities to qualified pharmacists for a life career in such fields as hospital pharmacy, pharmaceutical research, public health programs, medical supply and quarantine inspection. Assignments are made with consideration of the officer's demonstrated abilities and experience, and there is opportunity for growth and development. All commissioned officers are appointed to the general service and are subject to change of station.

An applicant for the grade of Junior Assistant Pharmacist must be a United States citizen, a graduate of a recognized school of pharmacy, and must pass a physical examination. Applications for this grade will also be considered from senior students; those who successfully pass the examination will be considered for appointment after graduation and licensure.

Applicants for the grade of Assistant Pharmacist must meet the above requirements and must have an additional three years of postgraduate professional training or experience.

Applicants for the grade of Senior Assistant Pharmacist must meet the requirements for the grade of Assistant Pharmacist and must have an additional four years of postgraduate professional training or experience.

Entrance salaries for the various grades are: Junior Assistant Pharmacist with dependents, $3391 a year; Assistant Pharmacist with dependents, $3811 a year; Senior Assistant Pharmacist with dependents $4351 a year. Promotions are at regular intervals up to and including the grade of Pharmacist Director, which corresponds to full Colonel, at $8551 a year. Retirement pay at age 64 for this grade is $4950 a year. Full medical care, including disability retirement at three-fourth's pay is provided. All expenses of official travel are paid by the government. Thirty days' annual leave with pay is provided.

The examination consists of a written professional examination, and a physical examination, followed by an oral interview to determine the applicant's general fitness for the Service. In its discretion the examining board may require a practical dispensing demonstration in pharmacy.

The three-day written examination will be given at places mutually convenient to the applicant and the Service; the physical examination will be performed at the same time by officers of the Public Health Service, if practical. Should circumstances require, the physical examinations will be performed on subsequent days to fit the convenience of the applicant and of the hospital or other activity where the examination is given.

The subjects of the written examination are: (1) practice of pharmacy, (2) chemistry, (3) physiology and pharmacology, (4) pharmaceutical economics and (5) bacteriology and public health.

The oral interview, and the practical dispensing demonstration if required, will be given as soon as practical thereafter to those candidates who obtain a satisfactory grade in the written examination and who are also found physically qualified.

Application forms and additional information may be obtained by writing to The Surgeon General, U. S. Public Health Service, Washington 25, D. C., Attention: Division of Commissioned Officers. Completed applications must be received not later than May 21 by the Surgeon General.

Ointment Jars

. . . . . .from p. 156

Table 3, only two (308 and 348) appear to have been prepared in this manner, as indicated by the high minus deviation in weight of ointment and the high plus deviation in weight of ingredient.

We must note that ointments so prepared can be purchased in an area where the pharmacists have been thoroughly schooled in proper technique, and where field observation has indicated a relatively low incidence of this practice. Of the 9 samples containing 98–102% of the requested one ounce of ointment, 6 samples were packed in two-ounce jars.

Variations in packing ointment jars are indicated by the following facts. Four jars with capacities of 1.01 to 0.98 ounces of petrolatum contained 0.91, 0.97, 0.80 and 0.97 ounce of ointment, respectively. The weights of seven samples packed in jars capable of holding 0.87 ounce of petrolatum were 0.75, 0.75, 0.76, 0.74, 0.74, 0.79 and 0.74 ounce. Of the 30 salicylic acid ointment samples, 12 were packed in jars of less than 0.9 ounce capacity. Five other samples contained less than 0.9 ounce of ointment although they were packed in jars having capacities over 0.9 ounce. Apparently the practice of packing ointments with the aid of sharp rapping to exclude air is often neglected.

Five of the salicylic acid ointment samples showed deviations in the acid content of more than ±10% and four showed more than ±17.5% deviation. Two of these substandard samples were almost certainly caused by the use of low-capacity ointment jars to measure the ointment base.

Obviously the jar manufacturer cannot be blamed because a pharmacist uses such technique. The pharmacist who will not abandon such procedure should at least be specific in ordering his containers to assure

TABLE 3—RELATION OF EXTENT OF ERROR IN SALICYLIC ACID OINTMENT TO CONTAINER CAPACITY AND WEIGHT OF OINTMENT

Sample No.	% Deviation in Conc. of Med. Ingred.	% Deviation in Weight of Oint.	% Deviation Jar Capac. from 1 Oz. Petrol.
304	− 3.2	−25.0	−13.0
305	+ 8.4	− 7.0	+10.0
306	+ 3.6	− 1.0	+68.0
307	− 7.2	−25.0	−13.0
308	+26.4	−24.0	−13.0
309	− 0.8	−14.0	−11.0
310	+ 2.4	−14.0	−11.0
311	+10.0	−25.0	−13.0
312	− 8.0	−17.0	−11.0
313	+ 2.8	0.0	+11.0
324	0.0	− 1.0	+70.0
328	− 7.2	− 9.0	0.0
329	+25.6	− 3.0	+ 1.0
334	− 7.2	−20.0	0.0
335	−21.2	− 3.0	+ 1.0
336	+20.0	+ 1.0	+70.0
337	+ 8.0	−26.0	−13.0
338	− 6.0	−17.0	−10.0
339	+ 7.6	+ 0.3	+96.0
340	− 9.6	0.0	+72.0
341	− 9.2	− 1.2	+17.0
342	+ 4.0	−21.5	−13.0
343	− 1.2	−12.9	− 2.0
344	− 5.2	− 1.9	+11.0
345	− 4.4	− 9.7	− 4.0
346	− 1.2	−15.8	−10.0
347	+ 5.6	−19.9	−11.0
348	+16.2	−26.0	−13.0
349	+ 1.6	−27.0	−11.0
350	− 7.6	+ 2.2	+66.0

TABLE 2—CAPACITY OF A POPULAR ONE-OUNCE OINTMENT JAR IN TERMS OF DIFFERENT OINTMENTS

	Capacity in Apoth. Oz. (Packed Cold)	Capacity in Grains (Packed Cold)	Capacity in Apoth. Oz. (Packed Warm)	Capacity in Grains (Packed Warm)
Capacity of jar in fluiddrams (detd.) 8.11				
Petrolatum capacity (calcd. 0.82)	0.81	389	0.82	394
Sulfur ointment 15%	0.89	427	0.91	437
Ammoniated mercury ointment 10%	0.87	418	0.88	423
Boric acid ointment 10%	0.86	413	0.86	413
Salicylic acid 7.5% in petrolatum	0.81	389	0.82	394
Emulsion-type ointment base	0.92	442	0.92	442
Sulfathiazole ointment 10%	0.85	408	0.86	413
Zinc oxide ointment 20%	0.97	466	0.98	471
Zinc oxide ointment 10%	0.86	413	0.87	418

obtaining jars with more appropriate capacities. Pharmacists who prefer off-size jars, large or small, and who wish to prepare just enough ointment to fill the jar, can determine the jar capacity of one jar in each new lot. To do this, employ the procedure stated earlier and use a "struck" or flush water level. Calculations can then be based on the jar capacity in terms of grains of petrolatum, instead of on 480 grains. Determination of the jar capacity takes about five or ten minutes.

Summary

1. The declarations of ointment jar capacities given by manufacturers have been presented. A uniform basis for, and manner of declaration of, jar capacities are highly desirable.

2. The differences in capacities of available ointment jars have been demonstrated.

3. Manufacturers can supply jars having almost any desired capacity, and each manufacturer now makes a jar having a capacity close to one apothecary ounce of petrolatum.

4. The manner in which carelessly ordered and improperly used jars can affect compounding accuracy has been indicated.

5. A simple and rapid procedure for the determination of jar capacity in terms of ounces or grains of petrolatum is described.

REFERENCES

1. Andrews, M. J., and DuMez, A. G., THIS JOURNAL, *23*, 350 (1934).
2. Goldstein, S. W., THIS JOURNAL, *9*, 98 (1948).

STRONG PHARMACY PROGRAM PRESENTED AT AAAS MEETING

A strong program was presented in the Pharmacy Subsection of the American Association for the Advancement of Science at its winter meeting in Chicago. Dean Glenn L. Jenkins of Purdue University School of Pharmacy was the chairman. Among papers presented were reports on domestic cultivation of camphor basil, influence of foods on gastric reduction of iron, evaluation of hydrophilic laxatives, hypothesis on relation of chemical structure to pharmacologic action, investigation of the new rodenticide "Castrix," and a series of reports on use of radioactive tracers in pharmaceutical research.

NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Council descriptions of drug products are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue, and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.*

SODIUM RICINOLEATE SOLUTION.—Soricin Sclerosing Solution, 2 per cent-Merrell.—A sterile, aqueous solution containing 2 Gm. of purified sodium ricinoleate per hundred cubic centimeters.—$C_{18}H_{33}O_3Na$.—M. W. 320.45. Sodium ricinoleate has the following structural formula:

$$CH_3(CH_2)_5CHOH—CH_2CH=CH—CH_2(CH_2)_5CH_2C(=O)—ONa$$

Actions and Uses.—Sodium ricinoleate, like other fatty acid salts is irritant to tissues, and in solution it exerts a useful sclerosing action for the obliteration of varicose veins by injection. Following injection into a varicosity, there is immediate fragmentation of the red blood cells and formation of a jelly-like clot, which resists resolution or absorption for a long period of time. Because of the irritation and destruction of the intima, the thrombus adheres to the wall of the vein. Subsequently there is fibrosis of the vein. Recanalization seldom occurs.

As with other sclerosing solutions, sodium ricinoleate solution is contraindicated for injection of varicose veins in obstruction of the deep (collateral) circulation, phlebitis, infected varicose ulceration, uncontrolled diabetes, arteriosclerosis and hypertension. Sensitivity or allergic reaction to sodium ricinoleate solutions may occasionally be encountered, so it is essential to begin treatment with a preliminary test dose as indicated in the following paragraph.

Dosage.—Sodium ricinoleate for injection of varicose veins is usually employed as a 2 per cent solution. This is considered the concentration of choice for all but the smallest lesions. Small telangiectasia may be injected intradermally with a 0.5 per cent solution, agitated to produce a frothy mixture with air that avoids undue hemolysis and subsequent brown pigmentation of the skin. Superficial venous ruptures (bursts or flares) may be treated with an

injection of 0.25 to 0.5 per cent concentrations into the most central of the veins involved.

The quantity to be injected depends on the size of the vein and the amount of blood stasis: 2 to 5 cc. of the 2 per cent solution is usually sufficient for injection of the trunk of the great saphenous vein when ligation of that structure is indicated. The average dose of the 2 per cent solution for localized varicosities ranges from 1 to 2 cc., and not more than 10 cc. is recommended for injection of various sites at one time of administration. Treatments may be repeated at intervals of one week. The smallest lesions usually require not more than 0.25 to 0.5 cc. of the drug in the lower concentrations. Care must be taken to avoid extravascular injection of the 2 per cent solution because of danger of sloughing of tissue.

All patients should be tested for possible sensitivity to sodium ricinoleate by injection of 0.5 cc. of the 2 per cent solution into a small varicosity four or five days before actual treatment is started. In patients who show a reaction to the test dose, the drug should not be used.

Tests and Standards.—

Sodium ricinoleate solution, 2 per cent, occurs as a clear, odorless, pale yellow liquid. The *p*H is not less than 8.2 or more than 8.5.

For tests and standards see *J. Am. Med. Assoc.*, 135: 921 (1947).

The Wm. S. Merrell Co., Cincinnati

Soricin Sclerosing Solution 2 per cent: 20 cc. vials. Each 100 cc. contains 2 Gm. of sodium ricinoleate.

U. S. Patent 1,936,456. U. S. trademark 244,397.

DIGITOXIN (See New and Nonofficial Remedies, 1947, p. 248).

The following dosage form has been accepted:

Premo Pharmaceutical Laboratories, Inc., New York

Tablets Digitoxin: 0.1 mg. and 0.2 mg.

ABSORBABLE GELATIN SPONGE.—Gelfoam-Upjohn.—A sterile absorbable water-insoluble gelatin base sponge.

Actions and Uses.—Absorbable gelatin sponge material, although insoluble in aqueous mediums, is absorbable and as such may be used as a surgical sponge, which may be left in place following closure of an operative wound. It is claimed that such material will be completely absorbed without inducing excessive formation of scar tissue or excessive cellular reaction in from four to six weeks. It is indicated in the control of capillary bleeding, particularly when moistened with thrombin solution.

Dosage.—Absorbable gelatin sponge may be applied to the bleeding surfaces in amounts sufficient to cover the area. For such purposes it should first be moistened thoroughly with sterile isotonic sodium chloride solution or thrombin solution.

The Upjohn Company, Kalamazoo, Mich.

Gelfoam: Jars containing four sterile sections, 20 by 60 mm. and sterile envelopes containing a single section 80 by 125 mm.

Tests and Standards.—

Gelfoam is obtained by foaming a specially prepared skin gelatin solution, which is then dried in air and subsequently sterilized by dry heat at 149 C.

Gelfoam is a light, nearly white, nonelastic, tough, porous matrix that may be cut into any shape or size. It shows no tendency to disintegrate even with relatively rough handling. A piece of Gelfoam may be rapidly wetted by working it vigorously between moistened fingers, and it will then readily imbibe water. A 10-mm. cube of Gelfoam weighing approximately 9 mg. will take up approximately fifty times its weight of water or forty-five times its weight of well agitated oxalated whole blood. Gelfoam will withstand dry heat at 149 C.

For tests and standards see *J. Am. Med. Assoc.*, 135: 921 (1947).

PENICILLIN (See New and Nonofficial Remedies, 1947, p. 144).

The following additional dosage forms have been accepted:

Abbott Laboratories, North Chicago, Ill.

Penicillin Sodium: Vials containing 1,000,000 units.

Crystalline Penicillin G Sodium: Vials containing 100,000, 200,000, 500,000 and 1,000,000 units.

Crystalline Penicillin G Sodium in Oil and Wax: 300,000 units per cubic centimeter in B-D 1 cc. glass cartridge with B-D Disposable Cartridge Syringe. Crystalline penicillin G sodium suspended in peanut oil containing 4.8 per cent white wax.

Eli Lilly & Co., Indianapolis

Crystalline Penicillin G Sodium: 20 cc. ampuls containing 100,000, 200,000, 500,000 and 1,000,000 units.

Crystalline Potassium Penicillin G in Oil and Wax: 300,000 units per cubic centimeter in 1-cc. glass cartridges with B-D Disposable Cartridge Syringe and in 10-cc. ampuls. Crystalline potassium penicillin G suspended in peanut oil containing 4.8 per cent white wax U. S. P.

Tablets Cyrstalline Potassium Penicillin G: 50,000 and 100,000 units, with sodium citrate as a buffer.

Sterone Chemical Company, Inc., Jamaica, N. Y.

Penicillin Calcium in Oil and Wax: 300,000 units per cubic centimeter in 1-cc. cartridges and 10-cc. vials. Calcium penicillin suspended in sesame oil containing 4.8 per cent (W/V) white wax U. S. P.

Premo Pharmaceutical Laboratories, Inc., New York

Cyrstalline Sodium Penicillin G in Oil and Wax: 300,000 units per cubic centimeter in 1-cc. glass disposable syringe and 5-cc. and 10-cc. vials. Crystalline sodium penicillin G suspended in sesame

(*Continued page 181*)

HEYDEN PENICILLIN PRODUCTS

* No refrigeration required

PACKAGE INFORMATION

PENICILLIN SODIUM—amorphous and crystalline forms: Vials containing 100,000, 200,000, 500,000, and 1,000,000 units.

PENICILLIN IN OIL AND WAX: 100,000, 200,000, and 300,000 units per cc.—5-cc. vials; also, 300,000 units per cc. in 10-cc. vials, and 1-cc. cartridge with needle.

TABLETS PENICILLIN CALCIUM (Buffered): 50,000- and 100,000- unit tablets, individually sealed in aluminum foil. Boxes of 12 and 120.

FINE HEYDEN CHEMICALS

HEYDEN

CHEMICAL CORPORATION

393 SEVENTH AVE., NEW YORK 1, N. Y.

Chicago Office: 20 North Wacker Drive
Philadelphia Office: 1700 Walnut Street

This Advertisement is Currently Appearing in Leading Medical Journals

Personalized Promotion

Your pharmaceutical suppliers know the power of a familiar trademark . . . to inspire confidence, to bring instant recognition of a reliable product or service.

Promotion-wise pharmacists take advantage of this same power by a distinctive design —an "unregistered trademark"—used repeatedly wherever their own name appears before the public.

To be productive your "unregistered trademark" must be more than your name reproduced in any type that the printer has handy. It must be distinctively designed. It must be skillfully executed and reproduced. It must be given effective force by constant repetition . . . adapted to your personalized labels, prescription blanks, boxes, advertising and wrapping paper by a firm that understands and specializes in the needs of the practicing pharmacist.

The Pictorial Paper Package Corporation has a staff of professional artists, engravers, photographers and consultants established to offer you personalized service economically.

A postal card mailed today will bring helpful information on how your pharmacy can have the advantage of powerful promotion with professional distinction and dignity.

PICTORIAL PAPER PACKAGE CORP.

AURORA - ILLINOIS

oil containing 4.8 per cent white wax U. S. P.

E. R. Squibb & Sons, New York

Penicillin Calcium Ointment: 30-Gm. tubes. Each gram contains 1000 units of penicillin calcium in a base consisting of petrolatum 40 per cent, beeswax 4 per cent, anhydrous lanolin 10 per cent and peanut oil approximately 46 per cent.

Brewer & Company, Inc., Worcester, Mass.

Penicillin Sodium: 20-cc. vials containing 100,000 and 200,000 units and combination packages of 100,000 units in 20-cc. vials packaged with a 20-cc. vial of isotonic solution of sodium chloride.

Heyden Chemical Corporation, New York

Penicillin Sodium: 200,000, 500,000 and 1,000,000 units in 20-cc. vials.

Premo Pharmaceutical Laboratories, Inc., New York

Penicillin Sodium: 500,000 and 1,000,000 unit vials.

STREPTOMYCIN (See *J. Am. Med. Assoc.*, Feb. 1, 1947, p. 320).

The following dosage form has been accepted:

Premo Pharmaceutical Laboratories, Inc., New York

Streptomycin Hydrochloride: Vials containing streptomycin hydrochloride equivalent in activity to 1 Gm. of streptomycin base (one million units).

SULFATHIAZOLE (See New and Nonofficial Remedies, 1947, p. 134).

The following dosage form has been accepted:

Cole Chemical Company, St. Louis

Tablets Sulfathiazole: 0.5 Gm.

NICOTINIC ACID (See New and Nonofficial Remedies, 1947, p. 512).

The following dosage form has been accepted:

U. S. Vitamin Corporation, New York

Tablets Niacin: 100 mg.

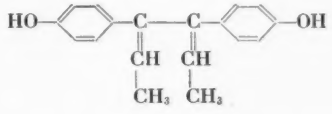
NICOTINAMIDE (See New and Nonofficial Remedies, 1947, p. 514).

The following dosage form has been accepted:

U. S. Vitamin Corporation, New York

Tablets Niacinamide: 100 mg.

DIENESTROL.— 3,4-Bis(*p*-hydroxyphenyl)-2,4-hexadiene. —$C_{18}H_{18}O_2$.—M. W. 266.32. The structural formula of dienestrol may be represented as follows:



Actions and Uses.—Dienestrol is used orally for the same conditions for which estrogenic substances are employed, and its contraindications are similar to those of other estrogens.

Dosage.—In the treatment of menopausal symptoms, orally in daily doses of 0.1 to 0.5 mg. for mild to moderately severe symptoms. In artificially induced climacteric a daily dosage of 0.5 to 1.5 mg. may be necessary.

For suppression of lactation a dose of 0.5 mg. three times a day for the first three days and 0.5 mg. daily thereafter for one week is the dosage usually employed.

Tests and Standards.—

Dienestrol occurs as colorless or white needle-like crystals or as a white crystalline powder. It is readily soluble in ether, ethanol, methanol, acetone, propylene glycol and in dilute aqueous sodium hydroxide solution; it is soluble in chloroform and practically insoluble in water and in dilute mineral acids. It melts at 229 to 230° C.

For tests and standards see *J. Am. Med. Assoc.*, 135: 773 (1947).

White Laboratories, Inc., Newark, N. J.

Tablets Dienestrol: 0.1 mg. and 0.5 mg.

MENADIONE (See New and Nonofficial Remedies, 1947, p. 533).

The following dosage form has been accepted:

Abbott Laboratories, North Chicago, Ill.

Tablets Kayquinone: 1 mg.

Capsules Kayquinone: 1 mg.

U. S. trademark 382,006.

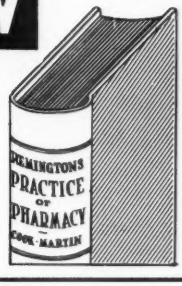
NEW

Answers EVERY *Question*

The New Completely Revised Ninth Edition 1948

REMINGTON'S

Practice of Pharmacy



The most complete, authoritative reference work and operating manual in practical Pharmacy. More than 40 experts have collaborated in its preparation. A necessity for every prescription or hospital pharmacist, manufacturer, teacher and student, and for libraries.

New size and format; 1200 pages; 900 illustrations. $16.00 a copy. Order now.

Mack Publishing Company
2100 Northampton Street, Easton, Pa.
Please send as soon as available my copy of "Remington's Practice of Pharmacy 9th Edition 1948" for which I enclose my (check) (money order) for $16.00.

Name.....
Address.....

A. Ph. A. Branches

LOCAL BRANCHES

ANOTHER joint dinner meeting was held in December by the **Western New York Branch** and the Western New York Retail Druggists Association. Dr. Paul C. Olsen of Philadelphia College of Pharmacy and Science spoke on "Recent Economic Trends of Interest to Retail Pharmacy."

Members of the **Northern Ohio Branch** heard Dr. Edward C. Elliott, director of the Pharmaceutical Survey, speak on "The Pharmacist as a Public Servant," at their January meeting. A dinner marking installation of new officers for the current year preceded the address. Those honored: Clarence Miller, president; Evlyn Gray Scott, vice-president; Robert Kreutzberg, secretary; and R. Stimson, treasurer. Nelson Schroeder, Robert Kreutzberg, Charlotte Curtis and Robert Baron were elected to the Branch council for a four-year term.

The third meeting of the **Northern New Jersey Branch** featured an address by Dr. L. Earle Arnow, director of research at Sharp and Dohme. Dr. Arnow spoke on "Proteins and Amino Acids; What They Do and Don't Do."

"Barbiturates" were discussed at the January meeting of the **New York Branch** by Jerome Trichter, director of the Bureau of Foods and Drugs, New York City Department of Health.

Well-planned programs of the **Chicago Branch** meetings continue to attract high attendance. Secretary Hansen reports that three speakers were presented at the November session. "Advances in Pharmaceuticals" was the subject of a discussion by Dr. Ernest H. Volwiler, executive vice-president of Abbott Laboratories. Charles Lanwermeyer, chief pharmacist at Abbott's, reviewed "What's New in Pharmacy," and Byrl Benton of the University of Illinois College of Pharmacy, presented his regular feature on "Prescription Problems."

The **Michigan Branch** in conjunction with the Detroit Section of the American Chemical Society held a symposium on "New Product Research and Development" in January. Speakers from the scientific staff of Parke, Davis and Co. were featured. Development of Promin, synthetic drug of value in treating leprosy, served to illustrate the numerous steps required to bring a new chemotherapeutic agent to the marketing stage. Attractive brochures distributed in advance helped to stimulate attendance at this important joint session. A. Ph. A. branches might well take greater advantage of the program possibilities offered by joint sessions with local branch organizations in other professions and sciences.

Guest speakers are a regular program feature of the **Northern California Branch.** At the November meeting members heard Dr. Donald C. Brodie, University of California College of Pharmacy, discuss "Dicumarol, an Anti-Coagulant Drug: Chemistry and Indications for Use." Dr. Morris Dailey of the University's Medical School spoke on the "Early Detection of Cancer" at the December session. Here is a good subject for every branch to schedule, in view of the coming National Pharmacy Week observance and its tie-in with cancer control.

STUDENT BRANCHES

THE **University of Tennessee Branch** was formally launched last fall with a charter membership of 55. Officers are: James H. McMahon, president; Dan Davies, vice president; Tom C. Sharp, Jr., secretary; and Horace J. Roller, treasurer. Dean R. L. Crowe and Drs. Karl J. Goldner and Albert H. Musick were elected as sponsors of the Branch. Dr. Bertha Baron, C. H. Smith and G. C. Bowles, faculty members, will also serve as advisers. Presentation of the charter was made by Charles H. Evans, past president of the A. Ph. A.

A "Job Forum" is being conducted by the **Wayne University Branch**. Several speakers from various fields of pharmacy will discuss employment opportunities and phases of work that are open to graduates. First speaker of the series is Mrs. Jane L. Rogan, secretary, Michigan Chapter, American Society of Hospital Pharmacists. Here is a program idea that deserves attention by other student branches.

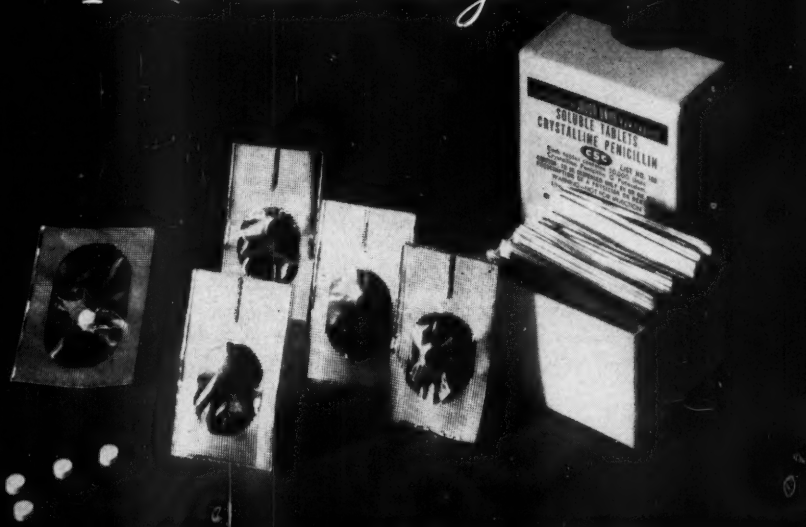
The following officers have been recently installed by the Wayne Branch: Wesley Brown, vice-president; Amelia Sroka, corresponding secretary; Nina Ksendzik, recording secretary; and Dr. Melvin Dunker, treasurer.

In November the **University of Buffalo Branch** held a joint banquet with the Western New York Branch of the A. Ph. A. Dr. Robert L. Swain, member of the A. Ph. A. Council and editor of *Drug Topics*, addressed the group. Calvin Waterbury has been elected treasurer.

At a recent session, President Morton Roller of the **Fordham University Branch,** announced that the year's activities include several guest speakers and a trip to E. R. Squibb & Sons. Mem-

CRYSTALLINE PENICILLIN G POTASSIUM

In its Newest Dosage Form



SOLUBLE TABLETS CRYSTALLINE PENICILLIN

Soluble Tablets Crystalline Penicillin offer many advantages in penicillin therapy. They consist entirely of crystalline potassium penicillin—50,000 units per tablet—and contain neither binder nor excipient. Readily soluble in water, saliva and milk, they make possible easier penicillin administration to infants, facilitate aerosol inhalation therapy, and are applicable for sublingual administration.

FOR ADMINISTRATION TO INFANTS

Penicillin treatment of many infectious diseases of infants and young children is made easier with Soluble Tablets Crystalline Penicillin. The tablets are dissolved in the milk formula, and the infant thus receives the penicillin with each feeding. The taste of the formula is not changed by the dosage employed.

IN AEROSOL INHALATION THERAPY

Soluble Tablets Crystalline Penicillin greatly simplify aerosol inhalation therapy. It is not necessary to make a penicillin solution in the usual manner prior to placing the penicillin in the nebulizer. Since the tablet is of known potency, it is simply dropped into the nebulizer and a small quantity of water is then added to dissolve the penicillin.

FOR SUBLINGUAL ADMINISTRATION

For those patients who cannot swallow tablets, the sublingual route offers another means of penicillin administration. The tablet is placed under the tongue and allowed to remain in place until completely dissolved. The penicillin is absorbed into the blood stream across the mucous membrane.

C.S.C. Pharmaceuticals

A DIVISION OF COMMERCIAL SOLVENTS CORPORATION • 17 E. 42nd ST., NEW YORK 17, N. Y.

bers of the group from the junior and senior classes are compiling representative question lists for cooperative study in preparation for state board examination.

Wilbur E. Powers, secretary of the New Jersey Board of Pharmacy, addressed the **Rutgers University Branch** on "Drugs, Medicines and Pharmacists." An open discussion followed and Mr. Powers answered questions from the floor.

Thanksgiving eve was marked by the **Brooklyn College of Pharmacy Branch** with a special program. Two guest speakers highlighted the meeting. Nicholas Gesoalde, secretary of the New York State Pharmaceutical Association, talked of the work of state and national organizations. Edward Niemeth, chairman of the College's Board of Trustees, discussed the many opportunities offered in the pharmaceutical profession. A motion picture projector, purchased by members of the Branch, was presented to the college by President Irving A. Willig. Dean Hugo H. Schaefer received the gift for the college.

Secretary Haakon Bang reports that members of the **State College of Washington Branch** saw two films at a recent session: "It's in the Bottle," supplied by Owens-Illinois Glass Co. and "Folvite in Anemias," available from Lederle Laboratories.

Members of the **State University of Iowa Branch** heard Dr. I. Pierce of the University's College of Medicine speak on "Quackery in Medicine" at the November session. Dean Emeritus Wilbur J. Teeters was guest speaker in December, speaking on "The Various Aspects of Toxicology."

Membership in **Howard College (Ala.) Branch** has increased to 100. In addition to regular meetings, the group gets together at various times to see pharmaceutical films. Dr. C. Lee Huyck, dean, has been elected adviser to the group.

Aiming at 100% membership among students, the **University of California Branch** started its campaign with a dinner for new students. Officers leading this ambitious branch are: Theodore J. Trichilo, president; Robert Miller, vice-president; and Michiko Hirasake, secretary-treasurer.

Josephine Marcinkiewicz, secretary of the **Massachusetts College of Pharmacy Branch,** reports that programs for the year include speakers, films, a seminar and a round-table discussion. Dr. Melvin W. Green, director of A. Ph. A. Laboratory, spoke on "Methods of Drug Standardization" at the November meeting.

Members of the **University of Minnesota Branch** will participate in the National Pharmacy Week observance, April 18–24. They expect to prepare posters and build several exhibition booths. A membership drive is under way and social functions are being planned.

From the Secretary's January Diary

1st A new year gets under way, ushered in by torrential rains, but when one is hospitalized, weather is a minor consideration. Walking a short way in the hospital corridor for the first time in three weeks brings home the effect of the battle with the pneumonia virus, but it is good to feel that one is on the mend. Over the air comes the report of the Rose Bowl game where Michigan is trouncing U. S. C.

2nd The days of self-sacrifice and dedication to the ministration of the sick sometimes seem on the wane. All of which is called forth by observations (based on a current shortage of nursing help at this hospital) for which there is time while one is hospitalized.

Nurses on a three shift basis have brought increasing problems to hospitals, and it is interesting to watch and study the struggle that now goes on to reconcile the urge for better training and economic status, within the nursing profession, with the welfare of patients. It seems a pity that sub-professional groups are being created in this field of medical care with limited licensure provisions that pharmacy has all but discarded. Practical nurses, nurses' aides and what not will soon be confused in the public mind with the R. N., to the detriment of the latter and frequently, it seems quite certain, to the misfortune of the patient.

3rd Saddened by the news that Russell Rothrock, Indiana Board member who was in Washington and expected to visit us today, died suddenly yesterday. Now the first trip to the hospital solarium and talking by telephone to Pat Costello in Chicago about urgent matters. Also conferring with A. Ph. A. staff members who brought their problems to the bedside.

4th Among the day's visitors at the hospital was William Woods, who has completed his work with The Pharmaceutical Survey and is about to tackle a new venture. Some good licks turned in on accumulated reading and kept up to date on U. S. Public Health Service pharmacy activities in telephone conversation with George Archambault.

(*Continued page 186*)

CELESTINS VICHY

Over 3,000,000 Messages to Physicians!

This year physicians will receive over 3,000,000 messages about CELESTINS VICHY . . . by attractive direct mail and in full-page advertisements in leading medical journals.

This agreeable-tasting, refreshing natural mineral water from the famous Celestins spring at Vichy, France, solves the problem of continuing patients on alkaline therapy for prolonged periods.

Get your share of this profitable business by maintaining ample stocks. Order CELESTINS VICHY from your wholesaler—today.

Sole Distributors

BROWNE VINTNERS CO., INC.

500 FIFTH AVENUE

New York 18, N. Y.

ATTENTION WHOLESALERS:

A distributorship may be available in your area. Write for details.

(*Continued from page 184*)

5th The hospital routine interrupted both afternoon and evening by personal contact with visiting A. PH. A. staff members who have been holding problems for discussion in abeyance. Good news from the M.D. who says discharge from the hospital is imminent.

6th Bidding good-bye to hospital staff this afternoon on departure for Hotel Washington to resume the normal grind as soon as possible. Fortunate to be able to set up temporary quarters for "business" in an adjoining room, while coasting into the resumption of activities at headquarters. Meeting with staff members individually and working diligently on preparations for Council meetings, joint meeting with N. A. R. D. Executive Committee, Finance Committee and budget.

7th Gathering strength and plugging along with the routine. Conferring separately with Messrs. Powers, Green, Nowell and others from the office and taking full advantage of the opportunity to work with less interruption than is possible at the office.

8th A visit from "Steve" Rippey, *Drug Topics*' faithful and highly competent Washington correspondent, brightens the forenoon. Long distance conversations by telephone with Dr. Hullerman of the American Hospital Association on the next Hospital Pharmacy Institute and with Tom Rowe on Pharmacy Week developments help the swing into the important activities ahead of us.

9th After a morning and afternoon reminiscent of the pre-pneumonia period, came Ernest Little and Dean DuMez to say "hello" in the early evening prior to the meeting of the American Council on Pharmaceutical Education, which convenes tomorrow.

11th Yesterday and today meeting with the American Council on Pharmaceutical Education which has some mighty important work ahead of it. With a half dozen new colleges of pharmacy started in and out of state universities, the need for reinspecting schools on probation, and the problem of how to accredit to show the difference between full and partial compliance with accepted standards, there is need for courageous statesmanship in this accreditation activity. E. C. Elliott was on hand both days to present results of fact finding by the Survey in areas affecting the work of the Council.

13th Yesterday marked the first visit to the office since December 8, but was able to stick it out for a good part of the day. For a time the days must be divided between the office at headquarters and the temporary office at the hotel. Much chagrin at inability to unpile things as fast as one would like and at the unfortunate delay in answering correspondence that would normally receive fairly prompt attention.

The long distance wires busy today conversing with "Bob" Gasen at Syracuse, N. Y., H. A. B. Dunning at Baltimore, John Zugich at New Haven and Don Francke at Ann Arbor. A pleasant visit with Stephen Wilson, who is here with the special Survey Committee on the Pharmaceutical Economics Curriculum.

15th Now working with Eleanor Poland and Frances Millbrook on the N. A. R. D.-A. PH. A. joint meeting agenda and finding the hundreds of state and national association resolutions at times difficult to "digest" for the committee.

18th Completing budget details for the Finance Committee during the past three days, and also the agenda for the joint meeting of the A. PH. A.-N. A. R. D. executive bodies and for the Council meeting which follows.

20th All morning at the Department of Commerce sitting with representatives of the government and the industries concerned with production and distribution of quinidine. It appears that in the interest of cardiac patients government controls should not be removed from this drug.

22nd All day in the joint meeting of the A. PH. A. Council and N. A. R. D. Executive Committee, with lengthy discussions of all the current problems. In the evening a meeting of the A. PH. A. Council's Finance Committee to consider the 1948 budget.

24th Sitting with the A. PH. A. Council yesterday and today—reporting on all the activities past and present, receiving instructions and inspiration for the tasks ahead. At luncheon on the 23rd, as guests of the Council, were E. C. Elliott, Colonel O. F. Goriup, Commander W. Paul Briggs and E. Burns Geiger. Today the luncheon guest was Federal Security Administrator Oscar Ewing.

26th Now to carry out the many things decided upon by the Council and reviewing all of the actions taken by the joint conference with the N. A. R. D. Executive Committee. Implementation is always more difficult than resolving.

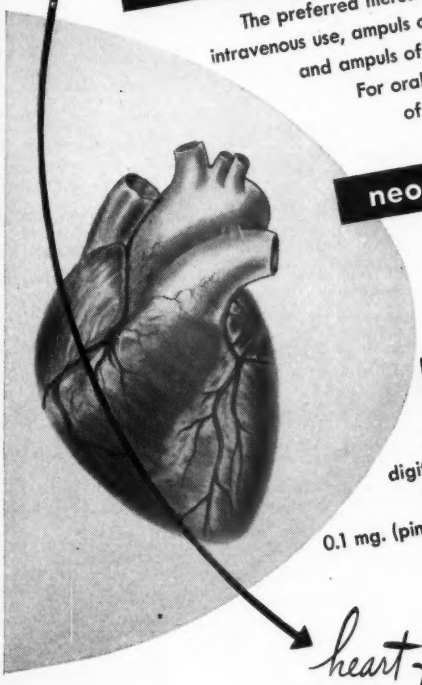
27th The last days of this wintry month taken up almost exclusively with dictating minutes of the Council meeting and corresponding with those concerned in carrying out the Council's actions. Just when to take that "vacation" or "rest" ordered by the Council and the M.D. is still to be decided.

heart failure

℞

salyrgan®-theophylline

The preferred mercurial diuretic. For intramuscular and intravenous use, ampuls of 1 cc. (boxes of 5, 10, 25 and 100) and ampuls of 2 cc. (boxes of 10, 25 and 100). For oral administration, tablets in bottles of 25, 100, 500 and 1000.



neocurtasal®

Palatable sodium-free seasoning agent; 2 oz. shakers and 8 oz. bottles.

digisidin®

For digitalization: pure crystalline digitoxin, 1000 times as potent as U.S.P. XII digitalis leaf. Tablets of 0.1 mg. (pink) and 0.2 mg. (white), bottles of 50, 100 and 500. Ampuls of 1 cc. (2 mg.), boxes of 6 and 100.

heart failure **is the Number 1 cause of deaths today . . . Make sure your prescription department is adequately stocked with these highly advertised, extensively detailed products for cardiac care.**

WINTHROP-STEARNS

DIGISIDIN, NEOCURTASAL and SALYRGAN trademarks reg. U. S. & Canada.

Winthrop-Stearns INC.
170 VARICK STREET, NEW YORK 13, N. Y.

The businesses formerly conducted by Winthrop Chemical Company, Inc. and Frederick Stearns & Company are now owned by Winthrop-Stearns Inc.

New A. Ph. A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ALABAMA

Gaston, Mrs. Mary G., Sylacauga
Vance, Clarence J., Birmingham

ARIZONA

Westerberg, Ernest R., Tucson

CALIFORNIA

Bowman, Reginald H., Hayward
Cutter, Edward A. Jr., Berkeley
Dyer, Glen E., Los Angeles
Herring, Roy W., Garberville
Hopelain, Richard, Berkeley
Kennedy, William R., Sacramento
Morrow, Leonard E., Oakland
Norin, George W., Berkeley
Pickering, Robert L., San Francisco
Scott, Ewell F., Oakland
Steed, Oliver H., San Francisco
Tainter, George W. Jr., San Francisco
Towne, Beverly F., Pasadena
Tubis, Manuel, N. Hollywood

COLORADO

Carey, D. Malcolm, Denver
Crow, Mrs. Esther M., Sterling
Norman, Wayne J., La Salle

DELAWARE

Bosley, John O., Wilmington

DISTRICT OF COLUMBIA

Witt, Ewald, Washington

FLORIDA

Hannah, Malcom E., W. Palm Beach

ILLINOIS

Cooper, William H., Danville
Meyer, Harold C., Chicago
Reinhofer, John J., Chicago
Sister Leonissa Woletz, Decatur
Sylvester, Lewis R., Chicago
Vliet, Elmer B., Lake Bluff

INDIANA

Gillmore, Kenneth R., Indianapolis
Loertz, Albert F., Columbus

IOWA

Eisentraut, Gerald L., Gowrie

KENTUCKY

Becker, Sol H., Louisville
Lopez-D, Ivan, Louisville

MARYLAND

Albrecht, William F., Hyattsville
Block, Frank, Baltimore
Cherry, Bernard, Baltimore
Clark, William A., Annapolis
Edwards, Webster K., Cumberland
Gaver, Paul C., Baltimore
Johnson, J. LeGrand, Baltimore
Lachman, Marvin M., Baltimore
Larson, Harold P., Ft. George Meade
Muth, Edward S., Baltimore
Neun, Charles J., Baltimore
Nitsch, Charles A., Elkridge
Noll, Violet B., Baltimore
Rosenbloom, Jack H., Baltimore
Schapiro, Harry S., Towson
Schmidt, Charles J., Baltimore
Stam, Mrs. Donald F., Chestertown
Voshell, Harvey W., Baltimore

MASSACHUSETTS

Arrigo, Frank J., Roslindale
Cervizzi, Vincenzo A., E. Boston
Crotty, Frank R., Clinton
Dudley, William E., Brighton
Wilbur, Donald C., Taunton

MICHIGAN

Frohme, William G., Detroit
Herman, Ernest V., Detroit
Rompf, William E., Detroit
Yagoda, Barney, Detroit

MINNESOTA

Hartmann, Charles A., St. Paul
Stapel, Forrest H., St. Paul

MISSOURI

Duryee, Merle E., St. Louis
Lutz, Walter E., St. Louis
Washburn, Raymond L., Hannibal

NEBRASKA

Becker, Mrs. Louise, Omaha

NEW JERSEY

Calasibetta, John, Montclair
Guardabasco, Nicholas J., Newark
Horowitz, A. G., Newark
Levitch, Mrs. Seymour, Newark
Lieberfeld, Chas. E., Jersey City
Sacksman, Edward, Elizabeth
Swerdlow, Maurice M., Bloomfield

NEW YORK

Benishin, Enuphry, Bath
Blackman, Charles, Brooklyn
Ferry, Clayton W., Tuckahoe
Gotthelf, B. Irma, New York
Joslyn, Dean B., Elmira
Kanig, Joseph L., Brooklyn
Levitt, Abraham, New York
Rosenberg, Henry J., New York

NORTH CAROLINA

Bilbro, Q. T., Asheville
Page, Benjamin F., Raleigh

OHIO

Henry, Gaddis, Dayton
Marshall, Isadore M., Cleveland Heights
Miller, George, Cleveland
Shultz, Albert H., E. Cleveland
Sister M. Justine, Cleveland
Ziegler, Bernice, Columbus

OREGON

Crane, Mrs. June, Corvallis

PENNSYLVANIA

Ermilio, M. A., Philadelphia
Fruncillo, A. Edward, Philadelphia
Garrison, Robert H., Philadelphia
Kline, Edgar L., Allentown
McCoy, J. R. Jr., Johnstown
O'Dell, Robert A., Philadelphia
Sapochak, Charles B., McKeesport
Seltzer, Eli J., Philadelphia
Shively, T. William, E. Stroudsburg
Singer, R. C., Philadelphia
Swank, E. P., Philadelphia
Whitmore, Jean, Philadelphia

TENNESSEE

Smith, Charles H., Memphis

TEXAS

Hughes, Mrs. Mary T., Galveston
Showalter, Mildred E., Austin

VERMONT

Sister Mary Immaculata, Winooski

WASHINGTON

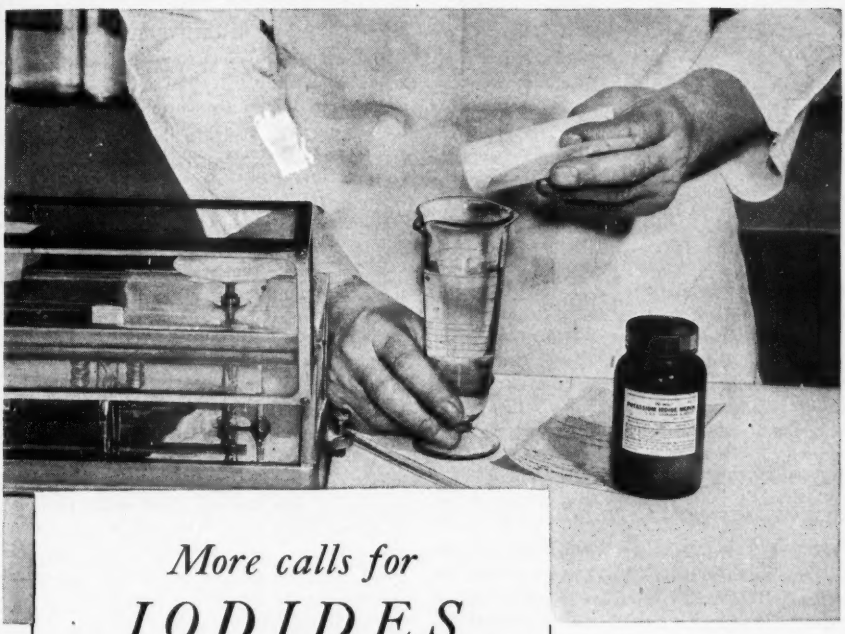
Duerfeldt, Theron M., Pullman
Frederick, L. P., Puyallup
Krupski, Edward, Seattle
Tsao, Daniel P. N., Seattle

WISCONSIN

Eulberg, F. W., Portage
Gapinski, Roman, Milwaukee
Goldberg, M., Milwaukee
Keller, Elroy, Wauwatosa
LeVeille, Charles W., Marshfield
Schwake, N. E., Beaver Dam
Sister Mary Beatrice, Racine
Tousman, Bernard C., Milwaukee

FOREIGN

Bellis, Henry A., Manila, P. I.
Blazek, Zdenek, Prague II, Czechoslovakia
Danielsson, Ivar, R. Iceland
Faille, Arthur, Montreal, Que., Canada.
Kalaidjian, Haigazoun, Jerusalem, Palestine
Lory, Rene, Melun, France
Montesinos-A., Fernando, Lima, Peru
Santillan, Mrs. Procesa G., Manila, P. I.
Srivastava, Gorakh P., Benares, India
Woolcock, Kenneth, New Westminister, B. C., Canada
Woollard, Mervyn J., Oatslands, Tasmania, Australia



More calls for IODIDES

1948		MARCH				1948
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

During this season of expectorant medications you'll be dispensing more of the Iodides—prescribed as valuable aids in the removal of bronchial mucus. It is important that you anticipate demands for these frequently used chemicals. We suggest that you check your stocks and order from your wholesaler now.

Potassium Iodide Merck U. S. P. Granular is of exceptional stability and is free from lumping characteristics. Dissolved in water, it forms brilliantly clear solutions. Merck standards of thorough control during manufacture and rigid assay after production protect you against variables of strength and purity.

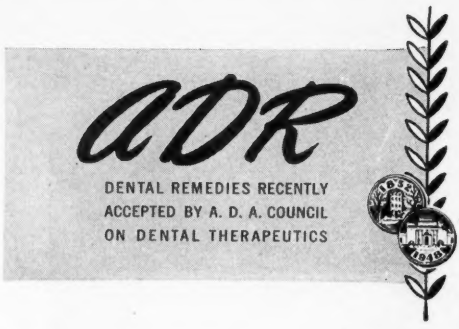
MERCK
PRESCRIPTION CHEMICALS

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N.J.

In Canada: MERCK & CO., Ltd., Montreal, Que.

MERCK MERCK

A Guaranty of Purity and Reliability



Admission to Accepted Dental Remedies *means that a product and the methods by which it was marketed at the time of consideration were not found to be in violation of the published rules of the Council on Dental Therapeutics. A summary of the rules appeared in This Journal, 7:153 (April), 1946. Accepted products are reconsidered periodically.*

PRESENT STATUS OF PENICILLIN FOR ORAL ADMINISTRATION

In connection with its announcement that penicillin for oral administration has been accepted for inclusion in *Accepted Dental Remedies*, the Council on Dental Therapeutics feels that it is desirable to point out that products of this type are not cure-alls and have definite limitations as to indications and effectiveness. The products referred to include the several forms of buffered tablets which are given by mouth to produce a therapeutically effective level of penicillin in the blood. Obviously the effectiveness of penicillin given orally is limited to those infections which are caused by penicillin-sensitive organisms, and attempts to treat infections which do not fall into this group with any form of penicillin can result only in failure. For this reason any dentist who proposes to use penicillin in any form must familiarize himself thoroughly with the types of infections which are sensitive and resistant to it.

In addition, penicillin administered by mouth is limited in its usefulness by the fact that absorption from the gastrointestinal tract is variable from person to person and from time to time in the same person. Absorption is poor if the penicillin becomes mixed with acid and food in the stomach. Therefore, penicillin administered orally must be given at least one-half hour before a meal and not sooner than one and one-half hours after a meal. Since only a small portion of the penicillin administered by mouth ever reaches the blood stream, at least four to five times the parenteral dose must be given. This usually means a minimum of 100,000 units every three hours, day and night.

The extent to which organisms may be made penicillin resistant by exposure to sublethal doses of penicillin is still controversial. Since there seems to be a possibility of producing penicillin-resistant organisms in this way, penicillin should be used only when definite indications exist for its effective application. This is particularly true in the case of the oral administration of penicillin because of the variability in absorption rates mentioned above.

At the present time it is not considered good practice to attempt the treatment of fulminating and dangerous infections with oral administration of penicillin. If possible, patients suffering from such infections which are caused by penicillin-sensitive organisms should be hospitalized and treated by the usual intramuscular route. If hospitalization is not possible and intramuscular injections of penicillin cannot be given every three hours, the injection, once or twice daily, of 300,000 units of penicillin in peanut oil and beeswax (Romansky formula) will be more reliable than administration of penicillin by the oral route. After the acute symptoms have subsided, penicillin may be given orally for continuing treatment until recovery is complete.

Penicillin given by mouth would appear to have a useful place in dentistry for prophylaxis against secondary infections after tooth extractions, apicoectomies and other surgical procedures if existing infection, extensive pathosis or severe trauma might predispose the patient to secondary infection. However, there would appear to be no logical reason for the oral administration of penicillin prophylactically in cases of simple, uncomplicated extractions. Currently available evidence does not indicate that penicillin administered orally is as satisfactory for adjunctive use in the treatment of Vincent's infection of the mouth as is penicillin administered topically.

Penicillin given orally also is being used experimentally for prophylactic purposes before and after tooth extraction in persons with damaged heart valves, as a precaution against the onset of subacute bacterial endocarditis. Preliminary work indicates that penicillin is very effective for this purpose, but pending further extensive studies the optimum route and dosage of penicillin are not established. It seems possible that parenteral administration will prove most reliable, but, if that route cannot be used, the dentist may prescribe oral administration of penicillin preoperatively and postoperatively after the diagnosis of a heart lesion has been established and prophylactic treatment has been recommended

Pharmacy • Chemistry • Bacteriology • Biology
Undergraduate courses, leading to B.Sc. degrees, pave the way to interesting and successful careers in these fields. M.Sc. and D.Sc. degree studies in Pharmacy, Bacteriology and Biology also available. Coeducational. Applications for September, 1949 now being considered. Write for catalog.
Philadelphia
COLLEGE OF PHARMACY AND SCIENCE
43rd St., Kingsessing and Woodland Aves., Phila. 4, Pa.

by a physician. Good clinical judgment would indicate that oral administration of penicillin should be prescribed preoperatively for twelve to twenty-four hours and postoperatively for twenty-four to forty-eight hours.

No presently available data indicate that the oral administration of penicillin in the treatment of uncomplicated root canal and periapical infections is of value.

If used rationally and conservatively on the basis of its known values and limitations, penicillin given by mouth will serve a useful purpose in dentistry. Its use should be limited to those instances in which it has known value because of the danger to the patient of inadequate treatment of dangerous infections.

Penicillin Tablets (Oral) 25,000 units—Bristol: Each tablet is stated to contain penicillin calcium, 25,000 units; calcium carbonate, 0.513 Gm.; starch, 0.026 Gm.; magnesium stearate, 0.007 to 0.010 Gm. In vials of 12.

Penicillin Tablets (Oral) 50,000 units—Bristol: Each tablet is stated to contain penicillin calcium, 50,000 units; calcium carbonate, 0.513 Gm.; starch, 0.026 Gm.; magnesium stearate, 0.007 to 0.010 Gm. In vials of 12. Manufactured by *Bristol Laboratories, Inc., Syracuse, N. Y.*

Tablets Buffered Penicillin, 50,000 units—C. S. C.: Each tablet is stated to contain crystalline potassium penicillin G, 50,000 units; hydrogenated soy bean oil, 0.092 Gm.; sodium oleate, 0.015 Gm.; sodium stearate, 0.164 Gm., and starch, 0.019 Gm. In vials of 8 or 48 .

Tablets Buffered Penicillin, 100,000 units—C. S. C.: Each tablet is stated to contain crystalline potassium penicillin G, 100,000 units; hydrogenated soy bean oil, 0.092 Gm.; sodium oleate, 0.015 Gm.; sodium stearate, 0.164 Gm.; and starch, 0.019 Gm. In vials of 8 or 48. Manufactured by *Commercial Solvents Corporation, Terre Haute, Ind.*

Penicillin Tablets (Buffered) 50,000 units—Schenley: Each tablet is stated to contain penicillin calcium, 50,000 units, in a mixture which consists of calcium carbonate, 80 per cent; sucrose, 10 per cent, and starch, 10 per cent. In bottles of 12. Manufactured by *Schenley Laboratories, Inc., New York.*

PENICILLIN AND STREPTOMYCIN

See *Accepted Dental Remedies*, Ed. 13, p. 104.

Penicillin Sodium Salt—Abbott, in vials containing 1,000,000 units. Manufactured by *Abbott Laboratories, North Chicago, Ill.*

Crystalline Penicillin G (Sodium Salt)—Abbott, in vials containing 100,000 units, 200,000 units, 500,000 units and 1,000,000 units. Manufactured by *Abbott Laboratories, North Chicago, Ill.*

Crystalline Sodium Penicillin G—Bristol, in vials containing 100,000 units, 200,000 units, 500,000 units and 1,000,000 units. Manufactured by *Bristol Laboratories, New York.*

ASSOCIATIONS

Drug industry allocates at least $50,000,000 for **scientific research** in 1948, of which manufacturers of pharmaceuticals are spending about $23,000,000, according to a survey made by Charles Wesley Dunn of the American Pharmaceutical Manufacturers Association. The drug industry as a whole will also spend an estimated $22,000,000 for scientific control of production. Manufacturers of pharmaceuticals expect to do a domestic business of at least $550,000,000—150 millions more than in 1945. Total scientific staff now exceeds 3000 employees.

In **New Jersey** there is one pharmacy for every 2529 persons, according to a survey by the New Jersey Pharmaceutical Association. Distribution pattern by counties ranges from one pharmacy for every 1571 residents to one for every 4562.

Six cents a minute for compounding time was recommended at a recent meeting of the **Nebraska Pharmaceutical Association.** It was felt that in setting prescription fees too many pharmacists overlook such factors as service, time, education, capital investment and space rental.

Louisiana state association has elected William P. O'Brien of New Orleans as president. Other new officers include Ronald L. Macke, recording secretary; Alfred Trahan, corresponding secretary; and Milton J. DeRouen, treasurer.

Two A. Ph. A. members head the **Michigan Academy of Pharmacy** for the 1948–49 term: Walter M. Chase of Parke, Davis and Co., president; and John H. Webster, Detroit pharmacist, vice-president.

COLLEGES

A. Ph. A. member **Harry W. Mantz, 44,** died only a week after his promotion to full professorship at Temple University School of Pharmacy. He had been on the faculty since 1926, when he received his Ph.G. at Temple. Later he earned three more degrees. Since 1940 he had been assistant to Dean Kendig.

Duquesne University School of Pharmacy announced several additions to the faculty: Joseph Zapotocky of Columbus, O., assistant professor of pharmacy and chemistry; Dr. Alfred Halpern of New York, assistant professor of pharmacology and biochemistry; John G. Adams of Pittsburgh, instructor in pharmacognosy and the history of pharmacy; and Frank X. Munsch, Jr., of Pittsburgh, laboratory instructor in pharmacy.

Shipment of CARE food packages to needy pharmaceutical students abroad has been undertaken at the **Philadelphia College of Pharmacy and Science** through student contributions.

HOSPITAL PHARMACY

Dr. Roger D. Reid, research bacteriologist at Hynson, Westcott and Dunning, was principal speaker at the January meeting of the **Maryland Association of Hospital Pharmacists.** He discussed development and clinical applications of the aluminum salt of penicillin.

Johns Hopkins Hospital, in cooperation with University of Maryland, offers several internships in pharmacy to 1948 or other recent pharmacy graduates. Appointments will be for two years, starting July 1, leading to the M.S. degree and a certificate of internship. Applicants should contact Dr. Erwin L. Crosby, director, Johns Hopkins Hospital, Baltimore 5, prior to April 1.

The **Southeastern Hospital Pharmacy Association** met in Atlanta January 17 and 18, with 41 pharmacists from seven states in attendance. Ten papers and a tour of Emory University Hospital were featured: Paul T. Rees of Bristol Laboratories discussed the national whole blood program projected by the Red Cross. Guy Trimble of the U. S. Public Health Service outlined the program under the Hospital Survey and Construction Act. John Thompson, chief pharmacist at Touro Infirmary, New Orleans, gave a paper on manufacturing in a private hospital.

Goals of the American Society of Hospital Pharmacists through cooperation with the A. Ph. A.'s Division of Hospital Pharmacy were outlined by Miss Gloria Niemeyer, associate editor of the *A. S. H. P. Bulletin* and member of the A. Ph. A. staff. Other papers presented were "Hospital Pharmacy Internships" by Grover C. Bowles of the University of Tennessee School of Pharmacy; "Relationship of Hospital Pharmacy and the Medical Profession in Community Life" by Charles E. Wilson of Corinth, Miss.; "Publicity and Its Importance in Pharmacy" by Joe Vance of South Highlands Infirmary, Birmingham; "Functions of the Veterans Administration" by Archie Millis, Atlanta; "The Relationship of the Superintendent and the Pharmacist" by D. O. McClusky, Jr., Tuscaloosa, Ala.; and "A History of Hospital Pharmacy Progress" by Albert Lauve of New Orleans.

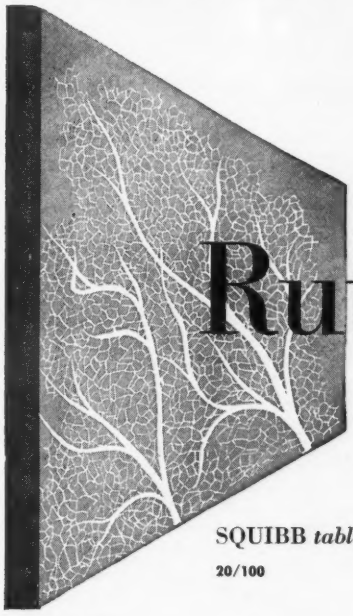
MONTHLY DRUG INDEX

Absorbable gelatin sponge 178
ACR-Allantomide ointment 138
Bentonite cream base 173
Castrix 167
Edryl 138
Gluco-Thricil 138
Histadyl 138
Isuprel hydrochloride 138
Malachite green 167
Micropellets Progynon 138
Neo-Antergan 138
Oxidized cellulose 174
Penicillin nasal aerosol 140
Penicillin (oral, dental) 190
Purodigin 140
Sodium ricinoleate 177
Streptomycin (tuberculosis) 174
Sulfedexan 140
Sulfonamides Triplex 140
Thenylene (dermatoses) 174

ADVERTISING INDEX

Acnomel (Smith, Kline & French Laboratories) 141
Aluminum Penicillin (Hynson, Westcott & Dunning, Inc.) ..... outside back
Calpurate (Maltbie Chemical Co.) 132
Celestins Vichy (Browne Vintners Co., Inc.) 185
Crystalline Penicillin G Potassium (C. S. C. Pharmaceuticals) 183
Dermesthetic Ointment (Cutter Laboratories) 130
Diazoline Dulcet Tablets (Abbott Laboratories) ..... inside front
Eli Lilly and Co. 142
Etamon Chloride (Parke, Davis & Co.) 131
Iodine applicators (Nips Inc.) 136
Iodine Educational Bureau, Inc. 140
"Remington's Practice of Pharmacy" (Mack Publishing Co.) 181
Neo-Antergan (Merck & Co., Inc.) 129
Oreton-M (Schering Corp.) 133
Owens-Illinois Glass Co. 135
Penicillin (Heyden Chemical Corp.) 179
Philadelphia College of Pharmacy and Science 190
Pictorial Paper Package Corp. 180
Pondicillin (Wyeth Inc.) 137
Potassium Iodide (Merck & Co., Inc.) 189
Salyrgan-Theophylline; Neocurtasal; Digisidin (Winthrop-Stearns Inc.) 187
Trasentine; Trasentine-Phenobarbital (Ciba Pharmaceutical Products, Inc.) ..... inside back
Unicap (The Upjohn Co.) 139

when vascular walls weaken



Rutorbin

SQUIBB *tablets of rutin and ascorbic acid*

20/100 60/300

A new therapeutic combination of rutin and ascorbic acid, generally effective in restoring and maintaining capillary integrity. Many cases of increased capillary fragility or permeability respond to rutin therapy, but rutin alone appears to be less effective until any existing ascorbic acid deficiency is corrected.[1]

Minimizes danger of vascular accidents

Rutorbin is useful for prophylaxis and therapy of hypertensive patients with increased capillary fragility, a group especially predisposed to retinal hemorrhage, apoplexy and death.[2] Restoration of capillary integrity with Rutorbin minimizes the danger of such vascular accidents. Rutorbin has no hypotensive effect. It is nontoxic, easy to take, and well adapted for prolonged maintenance therapy.

Rutorbin is indicated in other conditions accompanied by increased capillary fragility: diabetic retinitis, purpura, and drug idiosyncrasy (thiocyanates, arsenicals, etc.).

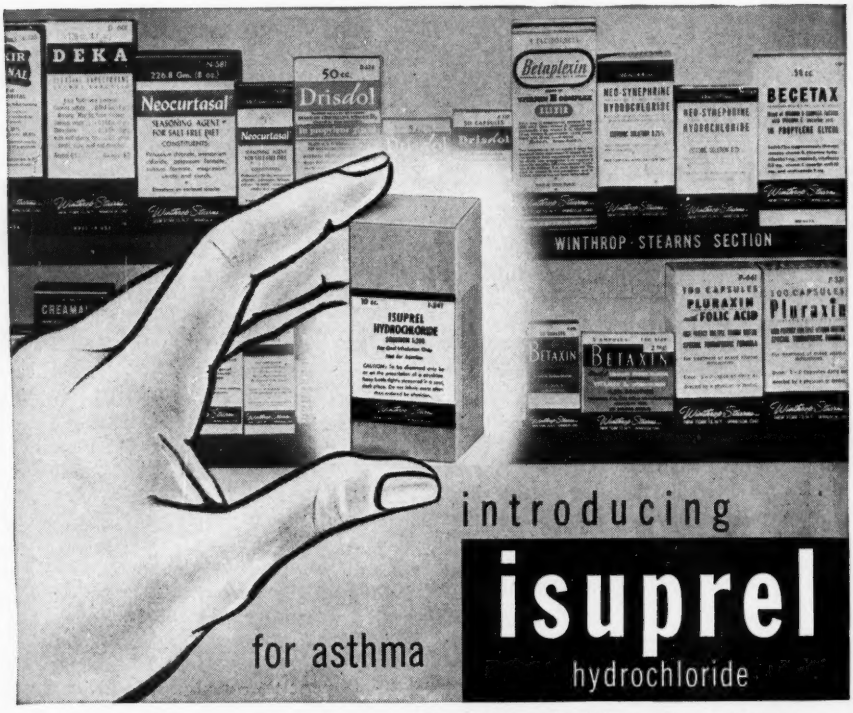
Available as Rutorbin Tablets 20/100 (20 mg. rutin, 100 mg. ascorbic acid). Bottles of 100. Also Rutorbin Tablets 60/300 (60 mg. rutin, 300 mg. ascorbic acid). Bottles of 50.

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

1. Couch, J. F., et al.: Bur. of Agric. & Indus. Chem., U. S. Dept. of Agriculture. A1C-115 (April) 1946. 2. Griffith, J. Q., Jr., and Lindauer, M.A.: Am. Heart J. **28**:758 (Dec.) 1944

This advertisement is appearing currently in leading medical journals.



potent bronchodilator for inhalation

An important addition to your Winthrop-Stearns prescription stock.

ISUPREL hydrochloride will be widely prescribed for asthma because it is:

- effective in cases which do not respond to other drugs.
- not subject to "fastness".
- characterized by a wide margin of safety.

ISUPREL is supplied in 1:200 solution, bottles of 10 cc., for oral inhalation. Administered with hand nebulizer or by oxygen-aerosolization.

CHECK your stock of . . .
Theominal ®
Drisdol ®
Creamalin ®
Pluraxin ®
Neocurtasal ®
Neo-Synephrine ®
Deka ®
. . . **Entire Winthrop-Stearns line on Fair Trade**

WINTHROP STEARNS

Isuprel, trademark.

Winthrop-Stearns INC.
170 VARICK STREET, NEW YORK 13, N. Y.

SURGICAL ASSISTANT

from the pharmacy

OXYCEL®

absorbable hemostatic

OXYCEL aids the surgeon by promptly stopping certain types of bleeding not amenable to control by clamps and ligatures. Applied directly to the bleeding surface, it cuts down blood loss and shortens operating time by keeping the operative field free from capillary bleeding. Left in place, **OXYCEL** is completely absorbed within a period of several days, with virtually no tissue reaction.

OXYCEL is ready for use as it comes from the container. Pliable as gauze or cotton, permitting use by direct application to oozing surfaces or as a pack in bleeding cavities, **OXYCEL** is available in 3 forms—pads, pledgets and strips—to meet various requirements of generalist and specialist . . . and particularly of the surgeon, urologist, proctologist, gynecologist, neurosurgeon, ophthalmologist, otolaryngologist, and dentist.

OXYCEL PADS (Gauze Type)
Sterile 3" x 3" eight-ply pads

OXYCEL STRIPS (Gauze Type)
Sterile 18" x 2" four-ply strips, pleated in accordian fashion.

OXYCEL PLEDGETS (Cotton Type)
Sterile 2¼" x 1" x 1" portions

The hemostatic qualities of **OXYCEL** (oxidized cellulose) are protected by packaging which insures against contact with reducing agents.

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

MEDICAMENTA VERA

PECTIN N.F.

Exchange

FOR MEDICINAL AND PHARMACEUTICAL USES

•

MADE FROM OUR OWN CALIFORNIA CITRUS FRUITS

•

WIRE OR WRITE FOR PRICES AND INFORMATION

CALIFORNIA FRUIT GROWERS EXCHANGE

Products Department, Ontario, Calif.

FIRE!!!

It damages hundreds of drug stores each year — many are killed — please help prevent it.

Your store and home can best be insured in the druggists' own company. Better insurance at less cost. For your benefit.

THE AMERICAN DRUGGISTS' FIRE INSURANCE COMPANY

Cincinnati, Ohio

OFFICERS OF THE ASSOCIATION

President.....Sylvester H. Dretzka
Honorary President.....Gustavus A. Pfeiffer
First Vice-President.....Augustus J. Affleck
Second Vice-President.....Roy L. Sanford
Secretary and General Manager.....Robert P. Fischelis
Treasurer.....Hugo H. Schaefer

MEMBERS OF THE COUNCIL

Elected Members: George D. Beal, *chairman;* B. V. Christensen, Roy B. Cook, P. H. Costello, H. A. B. Dunning, Glenn L. Jenkins, Ernest Little, George A. Moulton, *vice-chairman;* Robert L. Swain. *Ex-officio members;* Augustus J. Affleck, Sylvester H. Dretzka, Charles H. Evans, Robert P. Fischelis, *secretary;* Roy L. Sanford, Hugo H. Schaefer, Earl R. Serles.

ADMINISTRATIVE STAFF

Robert P. Fischelis, Phar.D., Sc.D., secretary and general manager; Harold V. Darnell, B.Sc., assistant to the secretary; Eleanor Poland, Ph.D., research associate.

Justin L. Powers, Ph.D., National Formulary, *Scientific Edition* of the JOURNAL; Melvin W. Green, Ph.D., laboratory and library; Glenn Sonnedecker, B.Sc., public relations, *Practical Pharmacy Edition* of the JOURNAL; Gloria Niemeyer, B.Sc., hospital pharmacy; W. Paul Nowell, B.Sc., finance and personnel; Mary Louise Bergner, A.B., membership; Franklin L. Deibert, exhibits, supplies, building and grounds.

SECTION CHAIRMEN AND SECRETARIES

Scientific Section: R. E. Anderson, chairman; Ray S. Kelly, secretary, 179 Longwood Ave., Boston 15, Mass.

Section on Practical Pharmacy: Charles V. Selby, chairman; Elmer M. Plein, secretary, University of Washington, College of Pharmacy, Seattle 5, Wash.

Section on Education and Legislation: James S. Hill, chairman; Ralph W. Clark, secretary, University of Kansas, School of Pharmacy, Lawrence, Kan.

Section on Pharmaceutical Economics: Stephen Wilson, chairman; E. J. Ireland, secretary, 6363 St. Charles Ave., New Orleans 15, La.

Section on Historical Pharmacy: C. M. Brown, chairman; Roland T. Lakey, secretary, Wayne University College of Pharmacy, Detroit, Mich.

•

TO MEMBERS PLANNING TO PRESENT PAPERS BEFORE THE SECTIONS: Members planning to present papers before any Section at the next meeting (San Francisco, August 8–14, 1948) are requested to notify the appropriate Section secretary promptly. Titles and abstracts (not to exceed 250 words) of papers should be submitted by May 1, 1948, to assure a place on the program. Send titles and abstracts to the appropriate Section secretary, whose address appears in the listing above.

POSTAL AND SUBSCRIPTION NOTICE

PUBLISHED by the American Pharmaceutical Association. Publication office: 20th and Northampton Streets, Easton, Pa. Editorial office (and address for all correspondence): 2215 Constitution Ave., N. W., Washington 7, D. C.

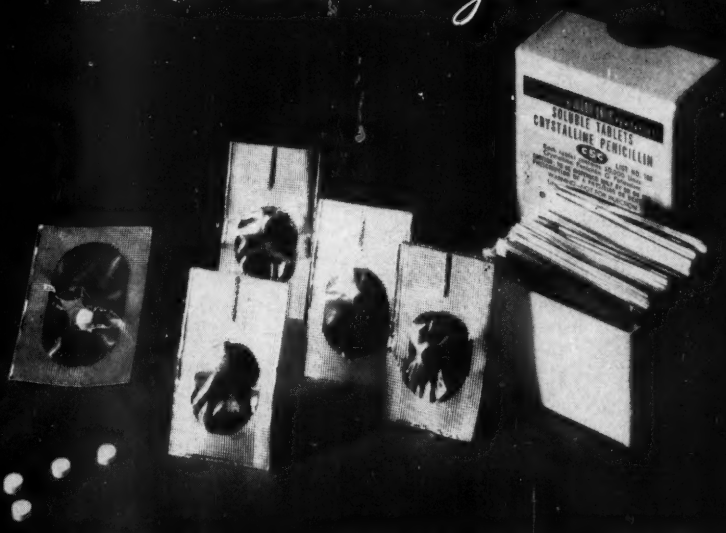
ANNUAL SUBSCRIPTION—Journal of the American Pharmaceutical Association, complete (both editions): United States and Pan American $7; Canada $7.70; other foreign $8; members of the American Pharmaceutical Association with dues, $4. Each edition, Scientific Edition or Practical Pharmacy Edition: United States and Pan America $4; Canada $4.35; other foreign $4.50. Single numbers, either edition: United States and Pan America $0.35; Canada $0.40; other foreign $0.50.

JOURNALS LOST IN MAILS cannot be replaced if due to failure to notify of change of address 30 days in advance, or if claim is made after lapse of three months.

ENTERED as second-class matter January 23, 1917, at the Post Office at Easton, Pennsylvania, under the act of March 3, 1879, as 24 times a year: Scientific Edition monthly on the 5th; Practical Pharmacy Edition monthly on the 20th. Acceptance for mailing at a special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

CRYSTALLINE PENICILLIN G POTASSIUM

In its Newest Dosage Form



SOLUBLE TABLETS CRYSTALLINE PENICILLIN

Soluble Tablets Crystalline Penicillin offer many advantages in penicillin therapy. They consist entirely of crystalline potassium penicillin—50,000 units per tablet—and contain neither binder nor excipient. Readily soluble in water, saliva and milk, they make possible easier penicillin administration to infants, facilitate aerosol inhalation therapy, and are applicable for sublingual administration.

FOR ADMINISTRATION TO INFANTS

Penicillin treatment of many infectious diseases of infants and young children is made easier with Soluble Tablets Crystalline Penicillin. The tablets are dissolved in the milk formula, and the infant thus receives the penicillin with each feeding. The taste of the formula is not changed by the dosage employed.

IN AEROSOL INHALATION THERAPY

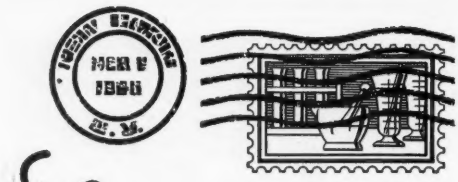
Soluble Tablets Crystalline Penicillin greatly simplify aerosol inhalation therapy. It is not necessary to make a penicillin solution in the usual manner prior to placing the penicillin in the nebulizer. Since the tablet is of known potency, it is simply dropped into the nebulizer and a small quantity of water is then added to dissolve the penicillin.

FOR SUBLINGUAL ADMINISTRATION

For those patients who cannot swallow tablets, the sublingual route offers another means of penicillin administration. The tablet is placed under the tongue and allowed to remain in place until completely dissolved. The penicillin is absorbed into the blood stream across the mucous membrane.

C.S.C. Pharmaceuticals

A DIVISION OF COMMERCIAL SOLVENTS CORPORATION • 17 E. 42nd ST., NEW YORK 17, N. Y.



Letters:

India's Dark Hour

Sirs:

I am feeling it tremendously difficult to write to you in this sorrowful period in our nation's history, when we have lost the Father of our Nation—when the world itself has lost a torch-bearer who was showing light to all humanity in this dark period. I am conscious that you all realize our profound grief, and I must admit that the rich tributes and messages of sympathy which we have received from your great country have gone a very long way in giving us consolation. I, as an Indian, take this opportunity of thanking all the Americans for their large-heartedness, and I hope and pray that they will do all they can to cherish and propagate the message of Peace and Love, Truth and Non-violence, which the Great Mahatma Gandhi has given us all.

At the same time I must express my thankfulness to you for all the communications which I have received sequel to my election as a member of your ASSOCIATION. Let me tell you that I value my association with your learned society as an acquisition. . .

Department of Pharmaceutics G. P. SRIVASTAVA
Benares Hindu University, India

Britisher in Chinese Hospital, American Type

Sirs:

I wrote a letter to you from China mentioning that I was traveling to England via the States, and would like to see something of American pharmacy en route . . . . I was prevented from visiting Washington, much to my regret.

Actually I saw a great deal in the short time I was in your country, of colleges and hospitals and retail pharmacies. In each institution I met with the greatest courtesy and kindness, and the staff placed considerable time at my disposal to show me the side of their work in which I was interested.

Some of the American pharmacists with whom I had the opportunity of talking over problems suggested that I might be able to join the AMERICAN PHARMACEUTICAL ASSOCIATION and receive the publications. I would be glad if you could forward details of qualifications for membership.

Working in China we have many American contacts and it is part of my job to help in the distribution, etc., of relief supplies to several hospitals which are run more or less on American lines. . .

Kwang-chi Hospital M. GARNETT
Hangchow, Chekiang, China

A Favor to Whom?

Sirs:

I am pleased to enclose my membership dues. In my senior year at O. S. U. College of Pharmacy, I became a member of the Student Branch of the A. PH. A. solely as a favor (I thought) to the likeable Dr. David Hiner, now dean of Utah's College of Pharmacy. However, the interesting programs soon convinced me that he had favored me. In the months which followed, I found the JOURNAL a source of information I couldn't afford to miss. Now, I feel it's a "must."

Youngstown, Ohio DAVID S. MACK

"A Great Family of Pharmacists . . ."

Sirs:

I have received your letter with pleasure. I feel myself a member of the great family of pharmacists and I am proud for that. Now and then a letter from you enforces the ties of this family relationship. I have got much benefit from the American pharmaceutical journals, especially from the PRACTICAL PHARMACY EDITION. You give to us foreign pharmacists an ideal stimulus to follow the path of incessant progress. . .

Beyrouth, Lebanon MANASSEH KAPRIELIAN

Comment from Members and Readers

Sirs:

Please send me a copy of the reprints "The Professional Pharmacy," "Practical Methods for Ethical Promotion" and "Determination of Prescription Fees." Having become a member a little less than a year ago may I also take this opportunity to congratulate you on your excellent publication. I find it very helpful.

Trenton, N. J. EDWARD FLANAGAN, JR.

Sirs:

The new style of presentation of the PRACTICAL PHARMACY EDITION is certainly a big step in the right direction. I am sure that the JOURNAL will now have a great deal more appeal for the "average" pharmacist behind the prescription case . . .

Berkeley, Calif. FRED E. SWITZER

Sirs:

. . . After having read your editorial and the rest of the January issue, I came to the conclusion that your aims to make the JOURNAL more enjoyable, readable and to increase its scope of usefulness already have been realized to a great measure.

Chicago, Ill. EDWIN F. SOBOL

Wyeth presents **METHADON,** *the new and superior synthetic analgesic, in a standardized, stable dosage form for oral use in the direct and effective control of coughs of all types—*

SYRUP ALTHOSE®

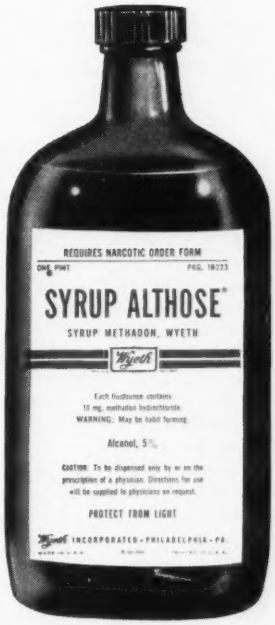
(SYRUP METHADON, WYETH)

SYRUP ALTHOSE is a dosage form of methadon particularly designed for the symptomatic relief of painful or debilitating and sleep-preventing coughs associated with bronchial or pulmonary infections, when such coughs interfere with adequate response to treatment or delay convalescence after the infection is under control.

Methadon resembles codeine in its action on coughs but is effective in very much smaller doses. In *Syrup Althose*, the powerful action of methadon is tamed down to a point of minimum side effects consistent with efficacy. Nausea or dizziness are uncommon. No effect has been noted upon blood pressure, respiration or heart rate. *Syrup Althose* does not act as a sedative, excepting in those cases in which cough has kept patients awake for some time previously. Unlike morphine or other opium derivatives, the action of methadon, as exhibited in *Syrup Althose*, is not hypnotic.

It has three advantages: (1) Its action is specific and does not diminish with use. (2) It has unusual palatability. Patients appreciate the delicate flavor. (3) Properly prescribed, it will not impair appetite nor upset digestion.

DOSAGE: One teaspoonful of *Syrup Althose*, containing only 1.25 mg. (1/50th grain) is sufficient to exert antitussive action in most simple bronchial irritations of adults. One to two teaspoons every 3 or 4 hours insure a degree of comfort even in more severe infections.



SYRUP ALTHOSE is a 1:3000 solution (one-sixth grain or 10 mg. per fl. oz.) in a palatable syrup of suitable pH of 6-dimethylamino-4, 4-diphenyl-3-heptanone hydrochloride, formerly known as Amidone and recently named methadon by the Council on Pharmacy of the American Medical Association.

Wyeth

Philadelphia 3, Pa.

WARNING: may be habit-forming. Until more evidence is available as to the habit-forming properties of methadon in small doses, *Syrup Althose* must be prescribed on narcotic forms. Large doses of methadon can lead to addiction in predisposed individuals. The physician should therefore make certain that the patient does not overdose. On the other hand, therapeutic doses given for control of the cough reflex have no perceptible effect on the digestive tract or on sensitivity to pain, and the development of tolerance has not been reported.

New prescription product

Product descriptions may be clipped and filed on three- by five-inch cards. These are also indexed for quick reference in the "Monthly Drug Index" appearing on the last page of each issue. A product is described in this column for the information of pharmacists who may be asked by physicians to stock the drug, or who may receive professional inquiries about it. A listing does not imply evaluation or recommendation by the Association, nor does omission of any product have significance concerning its merit.

ALUMINUM PENICILLIN

Description: A pure trivalent aluminum salt of penicillin, nearly insoluble in water (0.38%).

Form Supplied: Aluminum Penicillin in Oil is a sterile suspension in peanut oil (without beeswax), supplied in 1-cc. ampuls containing 100,000 or 300,000 units penicillin. Aluminum Penicillin Oral Tablets contain 50,000 units penicillin and 0.3 Gm. sodium benzoate per tablet, supplied in packages of 12.

Action: Anti-infective. Aluminum Penicillin in Oil is slowly absorbed and produces little, if any, irritation. Aluminum Penicillin Oral Tablets are said to be less susceptible than penicillin itself to action of gastric acidity due to the low solubility, and less susceptible to action of penicillinase due to the sodium benzoate present.

Dosage: Aluminum Penicillin in Oil is given by intramuscular injection, usually in doses of 300,000 units, twice daily. When oral penicillin is indicated, Aluminum Penicillin Oral Tablets may be given in three to five times the dosage of penicillin given parenterally. Oral penicillin should be administered not less than thirty minutes before or one and one-half hours after meals, many clinicians believe.

Source: Hynson, Westcott & Dunning, Inc., Baltimore 1, Md.

AQUASOL A AND D

Description: Four drops provides vitamin A 4000 U. S. P. units, and vitamin D 800 U. S. P. units, as obtained from fish liver.

Form Supplied: Aqueous solution in bottles of 15 cc., with marked dropper.

Action: Dietary supplement of A and D to help prevent deficiency manifestations, particularly where fat-soluble vitamins in aqueous medium may be advantageous.

Adminstration: Four drops or more daily as indicated.

Source: U. S. Vitamin Corp., 250 E. 43rd St., New York 17 (Casimir Funk Laboratories, affiliate).

CALCIFONATE

Description: Contains calciferol (vitamin D_2) 0.025 mg., equivalent to 1000 U. S. P. units vitamin D, and calcium gluconate 0.325 Gm., in a chocolate-flavored base.

Form Supplied: Compressed tablets in bottles of 100.

Action: Calciferol functions in the proper utilization of calcium. The soluble calcium salt supplements dietary calcium when necessary to maintain normal calcium content of the blood.

Administration: Orally, as indicated.

Source: Burroughs Wellcome & Co., Inc., New York.

CHLORGUANIDE HYDROCHLORIDE

Description: N^1-*p*-chlorophenyl-N^5-isopropylbiguanide hydrochloride; a synthetic drug which has also been known as "Paludrine" and "4888."

Form Supplied: Tablets of 0.1 and 0.3 Gm., Abbott; "Guanatol" tablets of 25, 50 and 100 mg., Lilly; and tablets of 0.1 Gm., Sharp and Dohme.

Action: Antimalarial, as a causal prophylactic, suppressive and therapeutic agent against *Plasmodium falciparum*, and as a supressive and therapeutic agent against *Plasmodium vivax*.

Administration: Orally, as indicated. A single dose of about 0.3 Gm. weekly is usually used as a suppressive in both falciparum and vivax malaria. A dose of 0.1 Gm. twice weekly may be used as a causal prophylactic against *P. falciparum;* and as a radical cure 0.3 Gm. in divided doses or once daily, for ten days, has been used. Ample intake of water with chlorguanide may minimize occasional gastrointestinal disturbances. A high dosage may produce indications of toxic effects in the urine, which are said to subside when dosage is reduced or interrupted.

Source: Abbott Laboratories, North Chicago, Ill.; Eli Lilly and Co., Indianapolis 6, Ind.; Sharp and Dohme, Inc., Philadelphia 1, Pa.

(*Continued page 202*)

METABOLIC SLOW-DOWN

A decline in physical activity and mental alertness may be due to any one of a variety of factors such as climacteric changes, natural aging, or anemia. When the metabolism test and clinical picture indicate that the disturbance is of thyroid origin, the selection of thyroid medication becomes important. Medicinal thyroid may vary greatly for there is a marked regional and seasonal variation in natural animal thyroid substance. Armour scientists working with the U.S. Public Health Service demonstrated this variation years ago and instituted methods of blending and assaying thyroid glands to fixed standards in order to achieve the greatest possible uniformity of potency.

The Armour Laboratories, satisfied only with the best in glandular products, is still actively engaged in research on thyroid. For example, Armour has introduced recently a new method of assay for thyroid by metabolic studies on guinea pigs to assure greater uniformity of potency in finished products.

This advertisement is currently appearing in medical journals

ARMOUR *Thyroid*

Supplied in 1/10, ¼, ½, 1, 2 and 5 grain tablets, plain and enteric coated and in powder U. S. P.

THE *Armour* LABORATORIES

CHICAGO 9, ILLINOIS

HEADQUARTERS FOR MEDICINALS OF ANIMAL ORIGIN

(*Continued from page 200*)

CHOLINE CHLORIDE SYRUP

Description: In each fluidounce, crystalline chloride of choline (hydroxyethyl-trimethyl-ammonium hydroxide) 4 Gm. and alcohol 1.5% in a wild cherry base.

Form Supplied: Syrup in bottles of 1 pint.

Action: Affects transport and utilization of body fat.

Administration: Orally as indicated for trial in certain hepatic disorders, in conjunction with other recognized forms of therapy. Dosage is frequently 2 to 4 teaspoonfuls three times daily.

Source: The Upjohn Co., Kalamazoo 99, Mich.

CHOLINE DIHYDROGEN CITRATE

Description: Dihydrogen citrate salt of choline (trimethyl hydroxyethyl ammonium hydroxide), containing approximately 40% choline.

Form Supplied: Tablets of 0.6 Gm. (10 gr.) in bottles of 100 and 1000.

Action: Affects transport and utilization of body fat, due to choline content.

Administration: Orally as indicated for trial in certain hepatic disorders, in conjunction with other recognized forms of therapy.

Source: Parke, Davis and Co., Detroit 32.

CITRASULFAS

Description: Contains in each fluidounce sulfadiazine 1.3 Gm. (20 gr.), sulfathiazole 1.3 Gm. (20 gr.), and sodium citrate 6.04 Gm. (93 gr.) (equivalent alkalizing power of 5.2 Gm. (80 gr.) sodium bicarbonate).

Form Supplied: Aqueous mixture in bottles of 1 pint.

Action: Systemic anti-infective, with low individual sulfonamide concentration and alkalizing effect to help avoid crystalluria.

Administration: The average dose for adults is 6 to 9 teaspoonfuls initially, followed by 3 teaspoonfuls every four hours. For children, dosage as indicated by body weight.

Source: The Upjohn Co., Kalamazoo 99, Mich.

CRYOBETA

Description: Crystalline B vitamins, vacuum-dried from frozen state. Each 8-ounce bottle contains thiamine hydrochloride 100 mg., riboflavin 100 mg., pyridoxine hydrochloride 50 mg., calcium pantothenate 500 mg., and nicotinamide 2500 mg.

Form Supplied: Dry concentrate, in bottles of 8 ounces, soluble in most aqueous or alcoholic fluids. To prepare prescription, dissolve concentrate by adding prescribed adjuvant in quantity specified and shake briefly. When viscous supplements are prescribed first dissolve the vitamin concentrate in 15 cc. of water.

Action: Dietary supplement to help prevent deficiency manifestations of members of the B-complex.

Administration: Orally, as indicated.

Source: The Upjohn Co., Kalamazoo 99, Mich.

HYANILID OINTMENT

Description: 5% salicylanilide in Carbowax 1500.

Form Supplied: Ointment in 1- and 4-ounce jars, and 1- and 5-pound jars.

Action: Fungicide.

Administration: Daily application to scalp with adjunctive measures as suggested by Schwartz *et al.* (*J. Am. Med. Assoc.*, 132: 58, 1946) for use against *Microsporon audouini.*

Source: Wright & Lawrence Laboratories, Inc., 14 N. Michigan Ave., Chicago 2.

KNL (DARROW'S SOLUTION)

Description: Each 100 cc. supplies potassium chloride 0.26 Gm., sodium chloride 0.4 Gm., and anhydrous sodium lactate 0.59 Gm.

Form Supplied: Sterile, pyrogen-free solution in bottles of 500 cc.

Action: Replacement for potassium deficiency which may accompany dehydration in severe diarrhea.

Administration: Intravenously, as indicated. Injection should be given slowly and only when patient is well hydrated, to avoid potassium intoxication.

Source: Cutter Laboratories, Berkeley 1, Calif.

LIVER INJECTION, U. S. P.

Description: Aqueous solution of liver extract containing the anti-anemia principle.

Form Supplied: Sterile solution in three strengths: 15 units per cc., in 1-cc. ampuls and 10-cc. vials; 10 units per cc., in 1.5-cc. ampuls, 10-cc. vials and 30-cc. bottles; and 5 units per cc., in 10-cc. vials and 50-cc. bottles.

Action: Stimulates maturation of erythrocytes in pernicious anemia.

Administration: Intramuscular injection; least discomfort occurs by deep injection into upper outer quadrant of gluteal muscle. Dosage as indicated.

Source: Abbott Laboratories, North Chicago, Ill.

PENICILLIN TROCHES WITH BENZOCAINE

Description: Contains 5000 units penicillin G with 5 mg. benzocaine.

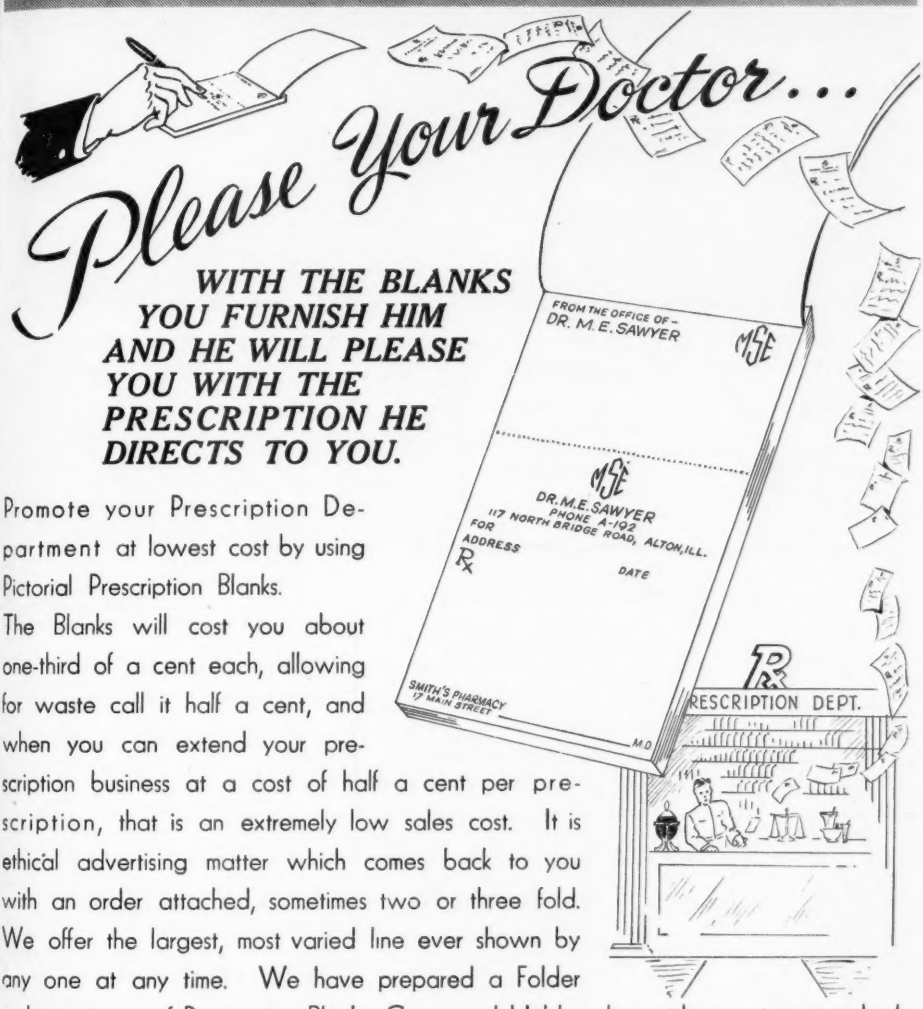
Form Supplied: Troches in bottles of 20.

Action: Anti-infective with local anesthetic effect.

Administration: Topically in dental practice and certain other indications.

Source: Bristol Laboratories, Inc., Syracuse 1, N. Y.

PICTORIAL Rx BLANKS



WITH THE BLANKS YOU FURNISH HIM AND HE WILL PLEASE YOU WITH THE PRESCRIPTION HE DIRECTS TO YOU.

Promote your Prescription Department at lowest cost by using Pictorial Prescription Blanks.

The Blanks will cost you about one-third of a cent each, allowing for waste call it half a cent, and when you can extend your prescription business at a cost of half a cent per prescription, that is an extremely low sales cost. It is ethical advertising matter which comes back to you with an order attached, sometimes two or three fold. We offer the largest, most varied line ever shown by any one at any time. We have prepared a Folder with specimens of Prescription Blanks, Cases and Holders, but with no prices attached. Use this to detail your Doctor. Let him choose the kind that meets his fancy. He will be pleased and your relationship with that Doctor will be improved and your business extended.

This plan has been put into effect by many Progressive Pharmacists and the beauty of it is, **the plan works.**

PICTORIAL
PAPER PACKAGE CORPORATION
AURORA, ILLINOIS

Aminoids

REG. U.S. PAT. OFF.

A PROTEIN HYDROLYSATE PRODUCT

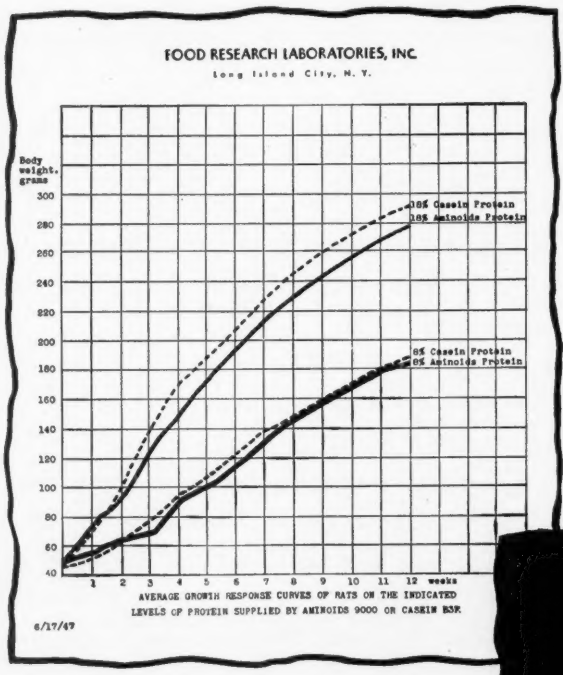
Biological Value Enhanced
Palatability Retained

IMPROVED BIOLOGIC EFFICIENCY.

Rat-growth curves, determined by independently conducted tests, demonstrate the high biological value of **AMINOIDS,*** compared with casein, recognized as a high-quality protein.

PALATABILITY and ADAPTABILITY.

AMINOIDS retains the inviting palatability long associated with its name. May be given in a variety of appetizing ways—in hot or cold liquids, desserts, cereals, etc.



AMINOIDS is derived from selected protein sources (liver, beef muscle, wheat, soya, yeast, casein, and lactalbumin). Analysis indicates the presence of all the essential amino acids in significant quantities.

Amino Acid Analysis†

Amino Acid	On Protein Basis N x 6.25 = 100% %
Arginine	3.0
Histidine	2.6
Lysine	5.8
Tyrosine	4.1
Tryptophan	1.3
Phenylalanine	5.8
Cystine	1.2
Methionine	2.4
Threonine	3.6
Leucine	10.2
Isoleucine	7.7
Valine	6.8

One tablespoonful t.i.d. supplies 12 Gm. of protein as hydrolysate.

Supplied as a dry, granular powder, in bottles containing 6 oz.

*The word AMINOIDS is a registered trademark of The Arlington Chemical Company.

†R. J. Block: Personal Communicaton.

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1, Arlington NEW YORK

Aminoids

REG. U.S. PAT. OFF.

A PROTEIN HYDROLYSATE PRODUCT

For Oral Administration

This advertisement is currently appearing in leading medical journals

These Rx Products Do Not Gather Dust

Frequently prescribed, extensively used, intensively promoted Massengill preparations do not tarry on your shelves. The rapid turnover of the following products, especially, will be pleasing to you as well as profitable.

CIMADROX

—for *modern* peptic ulcer therapy. Combines magnesium trisilicate, aluminum hydroxide and vitamin C in convenient tablet form. Provides rapid and prolonged relief of pain and distress. Vitamin C aids tissue regeneration and wound healing. In bottles of 100 tablets.

LIVITAMIN WITH IRON

—for effective rapid hemoglobin regeneration in hypochromic (secondary) anemias. Unusually palatable. Supplies iron together with liver concentrate and vitamin B complex of rice bran extract with added thiamine, riboflavin, nicotinamide, pyridoxine and pantothenic acid. In gallon and 8 oz. bottles.

SEMPYLEX

—for relief of the nausea and vomiting of pregnancy. Provides the action of pyridoxine, aided by dextrose, thiamine, riboflavin and nicotinamide. Aromatic vehicle pleasant in taste. In gallon and pint bottles.

ALDIAZOL

—for safer systemic sulfonamide therapy. An aqueous, pleasantly flavored suspension of rapidly absorbed, microcrystalline sulfadiazine and sulfathiazole together with the alkalizing salts sodium citrate and sodium lactate. Easily administered to children. In gallon and pint bottles.

DROPLEX

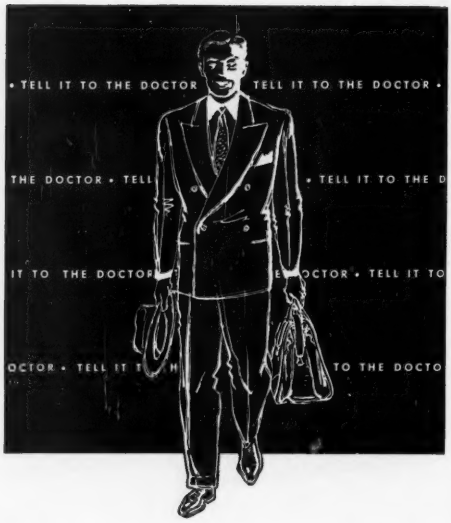
—for more completely rounding out the infant's dietary. Supplies—in drop dosages—B complex vitamins and hemopoietic factors in an aqueous vehicle: thiamine, riboflavin, nicotinamide, pyridoxine, ferrous sulfate, and liver concentrate. Excellent for dietary supplementation in adults as well. In 1 oz. bottles with calibrated dropper.

SEM CO

THE S. E. MASSENGILL COMPANY

Bristol, Tenn.-Va.

NEW YORK • SAN FRANCISCO • KANSAS CITY


• TELL IT TO THE DOCTOR
TELL IT TO THE DOCTOR •
THE DOCTOR • TELL
• TELL IT TO THE D
IT TO THE DOCTOR
OCTOR • TELL IT TO
OCTOR • TELL IT T
TO THE DOCTO

tell it to the doctor

Tell it to the doctor! That is the theme that governs every activity of your Lilly medical service representative. Day after day he calls on your physicians, conducting personal interviews which result in improved relationships between pharmacist and physician, in increased Lilly specifications for your store. Doctors are always eager for the full story on any product that promises to be helpful in healing the sick and relieving the distressed. They have long realized that organized research on an industrial basis has made many excellent contributions to medical care. They welcome the Lilly representative. You should, also, for your Lilly representative works for you, never against you. That is the Lilly Policy.

Lilly ELI LILLY AND COMPANY

WE PAY HIM BUT HE WORKS FOR YOU

INDIANAPOLIS 6, INDIANA, U.S.A.

y activity
y he call
mproved
tification
y produc
istressed
rial basi
welcome
sentative
ly Policy.

A, U.S.A.